National Transportation Agency of Canada
Office national des transports du Canada

Report

in the matter of Section 226 of the *Railway Act*; and in the matter of the collision of Canadian Pacific Limited Extra 5986 South (Train 972-14) with the rear of a yard movement headed by Diesel unit CP 1565 at mileage 6.34 of the Lanigan Subdivision, Regina, Saskatchewan on January 15, 1988

Received by the National Transportation Agency on May 4, 1988

Canada

A REPORT OF AN INQUIRY UNDER

SECTION 226 OF

THE RAILWAY ACT

COLLISION OF CANADIAN PACIFIC LIMITED EXTRA 5986 SOUTH (TRAIN 972-14) WITH THE REAR OF A YARD MOVEMENT HEADED BY DIESEL UNIT CP 1565 AT MILEAGE 6.34 CP RAIL'S LANIGAN SUBDIVISION REGINA, SASKATCHEWAN, JANUARY 15, 1988

NATIONAL TRANSPORTATION AGENCY OF CANADA

Railway/Pipeline Investigations Directorate

Rail Safety Branch

File No.: 39537.356

TABLE OF CONTENTS

APPOINTMENT

		PAGE
I	SYNOPSIS	1
II	THE ACCIDENT	2
III	INJURIES	5
IV	DAMAGES	6
VI	CAUSE	7
VII	APPLICABLE RULES AND SPECIAL INSTRUCTIONS	8
VIII	ANALYSIS	14
IX	DISCIPLINE	16
X	RECOMMENDATIONS	17

ATTACHMENTS

Appendix A Manual Block System Clearance No. 402

Appendix B Time Table No. 62 - Sutherland Subdivision

Appendix C Manual Block System Clearance No. 404

Appendix D Time Table No. 62 - Lanigan Subdivision

Appendix E Transcript of Radio Transmissions

Appendix F Map of Collision Site

Appendix G Time Table No. 62 - Special Instructions

Office national des transports du Canada
National Transportation Agency of Canada

IN THE MATTER OF Section 226 of the Railway Act, Chapter R-2, as amended by Section 316 of the National Transportation Act (1987).

- and -

IN THE MATTER OF an inquiry by the National Transportation Agency into the causes of and the circumstances connected with CP Train No. 972 colliding with the rear of a CP Yard Movement at or about mileage 6.1 of CP's Lanigan Subdivision, in the Province of Saskatchewan, on January 15, 1988 at 06:45 c.s.t. and into all particulars relating thereto.

TAKE NOTICE that the National Transportation Agency hereby appoints Mr. E.L. Boggs to inquire into the causes of and circumstances connected with the aforesaid incident, including all particulars relating thereto, and into all matters and things deemed likely to cause or prevent such an incident.

Dated at Hull, Québec, January 15, 1988.

Member

Member

I SYNOPSIS

At 0634 CST Friday, January 15, 1988 CP Rail's Extra 5986 South (Train 972-14), consisting of CP Diesel Units 5986, 6007 and 5948, 64 loads, 13 empties, 8,051 equated gross tons, length 4,795 feet, and a crew of three, travelling at a speed of 30 miles per hour (mph) collided with the rear of a yard movement consisting of a single Diesel Unit, CP 1565, and 34 cars travelling in the same direction at an estimated speed of 4 mph. The collision occurred at Mileage 6.34 of CP Rail's Lanigan Subdivision, 1.26 miles inside the yard limit sign located at Mileage 7.6.

The weather at the time was dark, -7°C, with a southeast wind at 17 kph and clear.

II THE ACCIDENT

Extra 5986 East (972-14) was ordered at Sutherland Yard, Saskatoon, Saskatchewan, for 2345 CST January 14, 1988 with a crew consisting of head end trainman, locomotive engineer and conductor. The head end trainman and conductor met at the Yard Office and discussed the switching to be done en route. At about 2345 CST the head end trainman left the Yard Office and walked to the Shop to assist the locomotive engineer, who had reported to the Shop for an ordered time of 2330 CST January 14, 1988, and was waiting there with CP Diesel Units 5986, 8021, 6007 and 5948. Units 5986 and 5948 were equipped with Q-Tron Event Recorders. The locomotive engineer had been observed at the Shop by the foreman on duty and a CP Police Constable and appeared normal. The conductor and head end trainman had been observed by the Yardmaster at the Yard Office and appeared normal. The engines were coupled onto the train at 0017 CST January 15, 1988. In the interim, the conductor had been chauffered from the Yard Office to the rear of the train by a Yard Office clerk. Between 0024 and 0042, two tests were made of the train brakes to see if they would set up, and at 0042 CST January 15, 1988 the conductor was advised the brake test was complete and all the brakes on the train were working. Both the Yard Office clerk and the carman had observed and spoken to the conductor. To both men, the conductor appeared normal.

At 0052 CST January 15, 1988, Extra 5986 East was cleared by the Train Dispatcher with M.B.S. Bulletins 987, 921 and 929. (See Appendix A.)

At 0055 CST, Extra 5986 East left Sutherland Yard, the engines leaving from Mileage 109.04, with four diesel units, 8 loads, 14 empties, equated gross tons 1,294 and train length of 1,640 feet.

At 0100 CST January 15, 1988 Extra 5986 East was by the outer main track switch at Mileage 108.1 Sutherland Subdivision. (See Appendix B.)

Between the point of departure of the units (Mileage 109.04 Sutherland Subdivision) and Lanigan (Mileage 37.7 Sutherland Subdivision), there were eight areas of permanent slow orders (Page 89, Appendix B). The first, in direction of movement, was a 50 mph slow order between Mileage 109.7 and Mileage 107.0 with a further restriction to 40 mph from Mileage 107.6 to Mileage 107.3. As shown in the Event Recorders on Units 5986 and 5948, at Mileage 107.6, 1.44 miles from Mileage 109.04, Extra 5986 East was travelling in excess of 48 mph and at Mileage 107.0 had reached a speed in excess of 57 mph. Subsequent speeds were recorded as follows:

At Mileage 99.0, west yard limit sign Cheviot	- 59 mph
At Mileage 85.0, west yard limit sign Elstow	- 61 mph
At Mileage 76.8	- 56 mph
At Mileage 72.5	- 57 mph
At Mileage 71.8, west yard limit sign Arpiers	- 58 mph
At Mileage 69.5	- 55 mph
At Mileage 66.1	- 56 mph
At Mileage 63.1	- 49 mph
At Mileage 55.2	- 57 mph
At Mileage 45.5, west yard limit sign Guernsey	- 62 mph

At Mileage 39.6, west yard limit sign Lanigan - 55 mph
At Mileage 39.0 - 42 mph

Extra 5986 East arrived at Lanigan at 0210, 1 hour and 15 minutes after leaving Sutherland according to the conductor; 1 hour and 20 minutes according to the Event Recorders. One (1) hour and 15 minutes were consumed setting out and picking up at Lanigan. The conductor and head end trainman worked together to complete the switching. After receiving a clearance from the train dispatcher at 0331 CST January 15, 1988, Extra 5986 South, now with Units CP 5986, 6007 and 5948 only, and 88 loads, 13 empties, 11,088 equated gross tons left Lanigan, the conductor showing his time out as 0330 CST, 0335 CST at the outer switch; the Event Recorder reflecting a time of 0335 CST. The M.B.S. Orders were Nos. 989, 921, 914. (See Appendix C.)

Extra 5986 South went by the north approach signal to the interlocking at Mileage 81.1 Lanigan Subdivision at 35 mph, and over the interlocking also at 35 mph. (See Lanigan Subdivision, Appendix D, page 92.)

At the north yard limit sign Bulyea, mileage 44.4, Extra 5986 South was travelling at 36 mph and, at Mileage 42.6, slightly in excess of 31 mph. At Mileage 25, Extra 5986 South was travelling at 42 mph, but reduced speed to stop at Craven 10 minutes later and 3.65 miles further. Extra 5986 South set out 24 cars at Craven and left about six minutes later with CP Units 5986, 6007 and 5948, 64 loads, 13 empties, 8,051 equated gross tons and a train length of 4,795 feet. The conductor showed a time out of Craven as 0555 CST January 15, 1988. The Event Recorders show the leaving time at Craven as 5 hours 1 minute after leaving Sutherland Yard, or 0556 CST. As Extra 5986 South left Craven, it reached a speed of 31 mph in the vicinity of Mileage 20; slowed to speeds of 17 to 30 mph between Mileage 20 and 11.75, then gained speed, reaching 43 mph in the vicinity of Mileage 8.7. About 1 minute 42 seconds later, Extra 5986 South passed the north yard limit sign Regina located at Mileage 7.6, at a speed of 39 mph.

In the interim, Yard Engine 1565 had been working in the vicinity of the IPSCO Plant located between Mileage 5 and 6 of CP Rail's Lanigan Subdivision and had coupled up 35 cars, made sure of continuity of air throughout the trainline by setting one bad order car off, then shoved the remaining 34 cars northward through D-63 switch to the main track. The north end of the cars was in the vicinity of Mileage 6.34. The Yardmaster, having learned after 0600 CST that the Extra 5986 South was out of Craven, called the yard engine asking where they were and advising them that Extra 5986 South would be there in about one-half hour. They replied that they were at IPSCO and would be leaving in about 20 minutes. At 06:32:47, Extra 5986 South advised they were at IPSCO with 77 cars. The Yardmaster advised them there was a yard engine out there. At 06:33:43, the conductor advised the train dispatcher that Extra 5986 South was clear of north yard limit board, Regina. The train dispatcher acknowledged this at 06:33:51. (See Appendix E, Radio Communications.)

Between 06:33:51 and 06:34:08 Extra 5986 South, travelling at 30 mph, struck the rear of the yard movement, Engine 1565, which had just started to move south at an estimated speed of 4 mph. The head end trainman and locomotive engineer of Extra 5986 South were fatally injured by the

collision, the yard helper and locomotive engineer on Yard Engine 1565 received minor injuries from the run-ins caused by the collision, the first as three empty gondola cars were struck, the second when the entire train of Extra 5986 South struck the loaded cars on the yard movement.

The point of derailment was 6,900 feet south of the yard limit sign at Mileage 7.6. The cab and outer shell covering motors, etc., of Unit 5986 was torn off and flew to the west side of the right-of-way. Two empty gondolas on the rear of the yard movement, CNW 130514 and CNW 340205 were thrown to the east side of the track, the first about 75 feet south of the point of derailment, the second about 150 feet south of the point of derailment, both remaining upright and almost parallel to the track about 20 feet out from the track. The car originally on the rear of the yard movement, BN 563245, empty, was approximately 300 feet south of the point of derailment, angled so that the car was at about a 45° angle to the track, the head end of the car outside the right-of-way. The fourth car from the rear in the yard movement, CN 190570, a load of steel coils, was on its side angled away from the track at about 45° angle about 350 feet south of the point of derailment, but remaining inside the right of way.

The fifth car from the rear of the yard movement, and the last one of the yard movement to be derailed, CN 190515, a load of steel coils, was turned on its side away from but almost parallel to the track, about 50 feet ahead of CN 190570.

On the Extra South, south to north, the lead Unit 5986 was laying almost parallel to CN 190570. The second, Unit 6007 was at an angle of about 80°, the rear on the track, the head end at the edge of the right of way, close to CN 563245 from the yard movement. The third, Unit 5948, was at right angles to the track, with the cab end near the east side right-of-way. Next to CP 5948 was CPWX 600792, a carload of grain, with rear on track, angled about 45° toward the west right-of-way limit. Following this car south to north were: CPWX 608584 - grain; CPWX 602156 - grain; CPWX 608079 - grain; and NCHX 46035 - fertilizer; all upright but derailed in line with the track. (See Appendix F attached.)

After the accident, RCMP Officers found two cans of Rainier beer in Extra 5986 South's locomotive engineer bag. CP Rail officials were instructed to search the right-of-way over the south end of the Lanigan Subdivision for evidence of empty beer cans and none were found.

Also found by the RCMP in the locomotive engineer's bag were four small white pills with "wyeth" written on them, four large round pills APO 400-80, a container with eight capsules believed to be tylenol, several broken pieces of pill containers, four white tablets (unknown kind) and three small white tablets (unknown kind).

Immediately following the accident, the conductor of CP Extra 5986 south refused to submit to drug and alcohol screening tests.

The locomotive engineer on CP Yard Engine 1565 did not have drug and alcohol screening tests until the following Wednesday (five days after the collision). The test results were negative.

III INJURIES

Head End Trainman	- Extra 5986 South - Fatally injured on impact
Locomotive Engineer	- Extra 5986 South - Fatally injured on impact
Yard Person	- Yard Engine 1565 - Minor injuries from impact
Locomotive Engineer	- Yard Engine 1565 - Minor injuries from impact

IV DAMAGES

Engines	$ 838,846.00
Cars	70,518.00
Signals	3,000.00
Clearing	11,665.00
Other Costs	5,568.00
TOTAL	$ 929,597.00

V CAUSE

CP Extra 5986 South failed to observe the restricted speed in Yard Limits in accordance with Rule 93 of the Uniform Code of Operating Rules (UCOR) and failed to observe the permanent slow order of 25 mph from Mileage 7.6 CP Lanigan Subdivision to Regina, Mileage 0.0.

VI APPLICABLE RULES and SPECIAL INSTRUCTIONS

Uniform Code of Operating Rules

General Rules

B

"Employees must be conversant with and obey the rules and special instructions. If in doubt as to their meaning they must apply to proper authority for an explanation."

D

"Employees in any service connected with the movement of trains are subject to the rules and special instructions."

E

"Employees must render every assistance in their power in carrying out the rules and special instructions and report promptly to the proper authority any violation thereof."

G

"The use of intoxicants or narcotics by employees subject to duty, or their possession or use while on duty, is prohibited."

Definitions

ENGINEMAN

"The employee in charge of and responsible for the operation of an engine."

RESTRICTED SPEED

"A speed that will permit stopping within one-half the range of vision."

TIME TABLE

"The authority for the movement of regular trains subject to the rules. It contains classified schedules, also special instructions relating to the movement of trains and engines."

YARD

"A system of tracks provided for the making up of trains, storing of cars and for other purposes, over which movements not authorized by time table or train order may be made, subject to prescribed signals, rules and special instructions."

YARD LIMITS

"That portion of the main track or main tracks within limits defined by yard limit signs."

YARD ENGINE

"An engine assigned to yard service."

RULE 90A

"Unless otherwise directed by special instructions, on freight, mixed and work trains in motion between stations, conductors and enginemen will see that trainmen are at the front and rear of trains in position to observe the safe operation of trains and, when practicable, exchange signals when approaching and passing stations. Approaching junctions, railway crossings at grade, drawbridges, points where trains may be required to stop, where trains are to be met or passed, and at a safe distance before descending heavy grades or at any point where failure of the brakes may be attended with hazard, a trainman must be within convenient access of the emergency valve."

RULE 93

"Within yard limits the main track may be used clearing the time of first and second class trains at the next station where time is shown. Protection against third class, fourth class, extra trains and engines is not required.

Third class, fourth class, extra trains and engines must move within yard limits at restricted speed unless the main track is known to be clear.

Unless otherwise directed by special instructions, yellow lights must be displayed in yard limit signs from sunset to sunrise.

Except in ABS territory, approach signs will be placed one mile from yard limit signs.

By night, or in foggy or stormy weather, a light must be placed on both ends of unattended cars or dead engines obstructing the main track within yard limits.

(TWO OR MORE TRACKS) Within yard limits, when moving against the current of traffic, all trains and engines must move at restricted speed."

RULE 98(1)

"Unless protected by block or interlocking signals, trains and engines must approach the end of two or more tracks, junctions, railway crossings at grade and drawbridges, at restricted speed."

RULE 103(1) and (2)

"When cars are pushed by an engine, except when switching or making up trains in yards, and even then when conditions require, a member of the crew must be on the leading car and in a position from which signals necessary to the movement can be properly given.

When cars not headed by an engine are passing along a public road or over a public crossing at grade which is not adequately protected by gates or otherwise, a member of the crew must be on the leading car to warn persons standing on, or crossing, or about to cross the track."

RULE 106

"Trains will run under the direction of their conductors. When a train is run without a conductor the engineman will perform the duties of the conductor.

Conductors, enginemen, and pilots if any, are responsible for the safety of their trains and the observance of the rules and under conditions not provided for by the rules must take every precaution for protection. This does not relieve other employees of their responsibility under the rules."

RULE 108

"In case of doubt or uncertainty the safe course must be taken."

RULE 321

"On portions of the railway so specified in the time table, or by special instructions, the use of the main track will be governed by the manual block system."

RULE 322

"The movement of trains will, unless otherwise provided, be supervised by the train dispatcher who will issue instructions as may be required to operators or conductors."

RULE 323

"Special instructions as may be necessary to govern this method of operation will be issued. Except as affected by such instructions and Rules 321 and 322, all Operating, ABS and Interlocking Rules remain in force."

CS 44 - GENERAL OPERATING INSTRUCTIONS

Item 6.1 - Section 2, Page 14

"Where radio communication is possible, crews equipped with radio at the front and rear of trains will communicate with each other at the following times and places:

a) Before passing station mile board, stating the name of the station in the communication.

b) Between one and three miles from:

- *yard limits on trains affected by Rule 93.*
- *points where protection of impassable or slow track has been provided by train order.*
- *points at which the train is required to wait, meet, pass another train, clear a superior train, move through a siding or when required to stop clear of or move through a crossover or pass from one of two or more tracks to single track, or from more than two tracks to two tracks.*

c) At points where the following train inspections are made:

- *running inspections at usual inspection locations.*
- *passing inspections by crew members of other trains.*
- *passing inspections by employees in the vicinity of the train.*
- *pull-by or standing inspections by members of the crew and/or mechanical employees.*

The communication between front and rear of trains must include information as to whether one or both sides of the train was inspected and results of inspection of track to the rear for evidence of dragging equipment."

Item 15.1(E) - Section 2, Page 24

"Approaching every siding the Engineman is responsible to ensure that the radio communication is established with the rear crew member and an acknowledgement obtained. Should there be a failure to secure an acknowledgement, the train must be stopped by the Engineman before passing the second consecutive siding and communication by radio, personal contact or hand signal established before proceeding."

TIME TABLE INSTRUCTIONS

TIME TABLE NO. 62, EFFECTIVE SUNDAY APRIL 26, 1987

Time Table Special Instruction "Z"

"PROTECTION OF TRACK UNITS WITHIN YARD LIMITS

On Subdivisions where Special Instruction is designated Section 11.0 of Form 3815, Regulations for the Protection of Track Units and Maintenance Work, applies. On such Subdivisions the "NOTE" in Rule 93 does not apply. Rule 281 "Clear Signal" cannot be accepted as indication that the track is "known to be clear" and third class, fourth class, extra trains and engines must move at Restricted Speed prepared to stop within one half the range of vision of trains, engines, cars or Track Units REGARDLESS OF SIGNAL INDICATION."

Time Table MBS Special Instruction 323.1(b)

"Trains and Engines may use the main track within Yard Limits as prescribed by Rule 93 and in accordance with Instruction 323.5."

Time Table MBS Special Instruction 323.5

"(a) When authorized by MBS Clearance to "Work Between", movements may be made on the main track within Yard Limits on the time of First Class and Second Class Trains.

(b) When necessary to ascertain whether all First and Second Class Trains have arrived or left, such information will be received from the Train Dispatcher and must be in writing and repeated to ensure correct understanding. The Train Dispatcher must make a record in the book provided for the purpose."

VII ANALYSIS

Extra 5986 East leaving Sutherland entered the slow order at Mileage 107.6 at 48 mph and at Mileage 107.3 was travelling 54 mph, exceeding the slow order by 8 then by 14 mph. The speed through yard limits Cheviot ranged from 59 to 63 mph with the same speeds registered through yard limits at Elstow. At Arpiers, speed through yard limits ranged from 55 to 62 mph. At Guernsay, speed through yard limits ranged from 59 to 62 mph. Approaching and entering the west yard limit sign Lanigan, Extra 5986 East was travelling at 55 mph. At Cheviot, Elstow, Arpiers or Guernsay, no brake applications were made. At Lanigan west yard limit sign, the speed was 55 mph and a brake application of 5 psi was made .17 miles or 900 feet inside the west yard limit sign. The Slow Orders for curves on the Sutherland Subdivision were respected within 2 to 3 mph.

Leaving Lanigan, Extra 5986 South passed the approach signal to the interlocking and the interlocking itself at 35 mph, 5 mph above the Time Table speed restriction at the approach signal. The maximum speed of 40 mph was exceeded by 4 mph in the vicinity of Mileage 60.82 and again at Mileage 47.23. Extra 5986 South passed the north yard limit sign Bulyea at 37 mph, no brake application having been made. The 30 mph Slow Order at Mileage 42.6 (on the curve) was entered at 31 mph. Extra 5986 South entered the slow order of 25 mph on curves, at Mileage 25.0, at 42 mph, gradually reducing to 24 mph over 2.34 miles to Mileage 22.66. The first curve in a southward direction is at Mileage 24.8 followed by three more curves before Mileage 22.66 is reached. After leaving Craven, Extra 5986 South observed the speed limitations until the north yard limit sign, which the locomotive passed at 39 mph, 14 mph in excess of the Time Table speed restriction.

On Sunday, January 17, 1988 at approximately the same early morning hour, at the same site and under the same conditions, CP Rail ran a test observed by an officer of the Rail Safety Branch, of the National Transportation Agency. A gondola car was left on the main track at the point of collision, and a train was operated by the CP Rail Road Foreman of Engines. The gondola first became visible to the locomotive engineer when the unit was 579 feet north of the stationary gondola.

The conductor gave evidence that the collision occurred at about the time he had called the train dispatcher and had given him the time clear of the north yard limit sign because the train had gone into emergency at around 0634 CST. His report to the train dispatcher was at 06:33:41. In the 1 minute 40 seconds from the time the locomotive passed the north yard limit sign until the Event Recorder quit recording, possibly from being torn loose, there is evidence that a brake application was started 1 minute 14 seconds after passing the north yard limit sign and 20 seconds later, there was a locomotive initiated emergency. Six (6) seconds after that, the Event Recorder quit recording.

The trip from Sutherland Yard to Lanigan, and again from Lanigan to the point of collision, was characterized by violations of speed restrictions and imprudent speeds through yard limits. The conductor, although claiming to have made about 2000 trips as trainman and conductor on the Sutherland Subdivision, 100 trips as trainman and 200 trips as a conductor on the

Lanigan Subdivision, failed to take any action when the speed limitations were being violated, particularly at the last when Extra 5986 South entered the yard limits Regina at a speed of 39 mph, and collided with the yard movement at 30 mph.

The discipline record of the locomotive engineer contains evidence that he was assessed 20 demerit marks in November of 1987 for exceeding the authorized speed.

Had the locomotive engineer observed restricted speed as applicable to yard limits, the collision would not have occurred. Had the conductor or head end trainman taken action to stop the train because of the speed approaching yard limits Regina, the collision may not have occurred and certainly would have been lessened.

While it had no bearing on the collision caused by Extra 5986 South, it should be noted that shortly before the collision, Yard Engine 1565 shoved north with 34 cars on to the main track without a member of the yard crew on the leading car. There was also a Public Crossing at grade involved.

VIII DISCIPLINE

The Conductor of Extra 5986 South was dismissed by CP Rail, for violation of operating speeds on the Lanigan Subdivision and violation of UCOR Rule 93, at Mileage 6.3 of the Lanigan Subdivision.

IX RECOMMENDATIONS

Based on the foregoing, I recommend that the National Transportation Agency of Canada (NTA):

(1) Order CP Rail to monitor the operation of their trains in various Yard Limits including Regina, on the Saskatoon and Moose Jaw Divisions for a period of six months commencing June 1, 1988. This monitoring to include observances of restricted speed, proper procedures for radio transmissions in accordance with the Carrier's General Operating Instructions (CP Rail CS.44) and observances of other operating rules, to be carried out at the rate of at least 30 per month, a monthly report of the results to be forwarded to the Director of the Railway/Pipeline Investigations Directorate (RPID) at NTA Headquarters and to the Rail Safety Branch of the NTA at Winnipeg, Manitoba at the end of each month.

(2) Order CP Rail to conduct spot checks on the contents of bags being carried on to trains by crew members as an alcoholic beverage was discovered in the bag of the locomotive engineer of Extra 5986 South after the collision. This should be carried out at all terminals of CP Rail's Moose Jaw and Saskatoon Divisions for one year with quarterly reports on results being forwarded to the Director, Railway/Pipeline Investigations Directorate at NTA Headquarters, and to the Rail Safety Branch of the NTA, Winnipeg, Manitoba.

(3) Order CP Rail to alter its Time Table Special Instructions to prohibit entirely the use of prescription drugs by operating crew while on duty unless the use of such drugs is sanctioned by the local CP Rail Medical Officer. The autopsy report revealed traces of a prescribed drug known as Lorazepam in the liver of the deceased locomotive engineer. This drug had been prescribed while he was on holidays, shortly before the collision. Such a drug can cause drowsiness or lack of alertness, and the pharmaceutical standards state this drug should not be used while operating machinery. (See Appendix G attached.)

(4) Submit to the Minister of Transport that there is a serious need in terms of ensuring safety of railway employees and the public to develop legislation or take such other appropriate action to require a railway operating crew involved in a railway accident resulting in serious injury or loss of life to submit immediately to tests for drug and alcohol abuse on the job.

(signed)

E. L. Boggs
Chief, Safety and Services
Winnipeg District
Rail Safety Branch

P MANUAL BLOCK SYSTEM CLEARANCE
RAIL

---

1. Clearance Number 402 Date JAN 15 1988
To EXTRA 5986 EAST

---

2. Clearance Number ____ is cancelled.

---

3. Proceed _____
From EAST Y L SIGN SUTHERLAND
To WEST Y L SIGN LANIGAN
N/A

Work _____
Between _____
And _____
Until MBS Clearance is Cancelled

---

4. After _____
Arrive(s) at _____

---

5. Do Not Leave _____ Before ____

---

6. A) Protect Against _____
Between _____
And _____
B) Protect Against _____
Between _____
And _____
C) Protect Against _____
Between _____
And _____

---

7. Joint Authority Granted with Foreman _____
Between _____
And _____
_____Must Not Enter, Nor Move Within
The Limits of the Track Occupancy Permit until Instructions
Have Been Received from Foreman _____

---

8. Bulletins 987 921 929

---

9. Call Train Dispatcher _____

---

10. Completed at 0052 SDK
Acknowledged by TRAINMAN _____ AT 0052
Acknowledged by _____ AT ____

---

11. Cancellation
This M.B.S. Clearance Number____ Is cancelled at _____
Acknowledged by _____ At ____
Acknowledged by _____ At ____

(or C & C use: 3002 3719 19880114 805)

Manual Block System Bulletin

CP Rail

Bulletin No. 987 Date JAN 3 1988

To:

SUTHERLAND SUB TRAINS

SIDINGS FLORAL

CHEVIOT

ELSTOW

COLONSAY

AND WOLVERINE

BLOCKED WITH CARS

Made Complete at 0310 (Time) Train Dispatcher's initials

Acknowledged by D DR (Occupation/Name) 0310 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's Initials)

Manual Block System Bulletin

CP Rail

Bulletin No. 921 Date JAN 13 1988

To: SUTHERLAND SUB TRAINS
LANIGAN SUB TRAINS

NO THREE 3 SWITCH
ON WEST END OF EAST YARD
AT LANIGAN
OUT OF SERVICE
SWITCH SPIKED

Blocks Complete at 0125 (Time) Train Dispatcher's Initials

Acknowledged by OPR (Occupation/name) 0125 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's Initials)

Manual Block System Bulletin

CP Rail

Bulletin No. 929 **Date** JANUARY 14-1988

To: SUTHERLAND SUB TRAINS

DO NOT EXCEED
FORTY FIVE 45 MILES PER HOUR
WHILE HANDLING TRAILER OR CONTAINER FLAT CARS
LESS THAN SIXTY 60 FEET IN LENGTH EMPTY OR LOADED
WITH LESS THAN TWENTY 20 TONS CONTENTS
AS IDENTIFIED ON ENHANCED TRAIN CONSIST FORM IDP 125
THIS RESTRICTION ALSO APPLIES WHEN THESE CARS ARE LIFTED ENROUTE

Made Complete at 1756 (Time) **Train Dispatcher's initials**

Acknowledged by B.J.R. (Occupation/Name) 1756 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) **By** (Train Dispatcher's initials)

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

MANUAL BLOCK SYSTEM TRAIN SHEET

Page: 1

DISPATCHER: PEC SUTHERLAND SUBDIVISION JAN 15 1988

TRAIN DESIGNATION: EXTRA 5986 EAST
SHORT NAME: X 5986 E

ORIGIN	DESTINATION	TIME	DATE
SUTHERLAND	LANIGAN	2345	JAN 14 1988

CREW	CLEAR OF		AT
CONDUCTOR:	LANIGAN	M35.60	0208
ENGINEMAN:			
TRAINMAN:			
TRAINMAN:			
TRAINMAN:			

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

SUTHERLAND SUBDIVISION

WESTWARD TRAINS	END TO END CHANNEL	DISPATCHER CALL IN CHANNEL	MAINTENANCE OF WAY CHANNEL	MILES FROM WYNYARD	YARD LIMITS	STATIONS	OFFICE SIGNALS	SIDING CAPACITY IN FEET.	EASTWARD TRAINS
				0.0	2.5	WYNYARD ..... KWYZ	W	Yard	
				7.8		7.6 KANDAHAR			
				14.9		7.3 DAFOE		1850	
				18.2		3.3 KING		8200	
				23.3		5.1 JANSEN			
				29.1		5.8 ESK			
				37.7	35.8	8.6 V LANIGAN ... V ... WYZ		5460	
					39.6	Jct. Melfort, Lanigan, Prince Albert Subs.			
				44.4	42.7	6.7 GUERNSEY ..... YZ		1860	
		CP 3			45.5	4.7 WOLVERINE		3570	
	CP 1	3		49.1		6.8 PLUNKETT		4620	
		PULSES	CP 13	55.9		4.9 SCLANDERS		2640	
				60.8		4.3 VISCOUNT		1850	
				65.1		5.3 ARPIERS ..... YZ			
				70.4	68.6	5.2 COLONSAY ..... YZ		2850	
				75.6	71.8 74.3 77.3	Jct. Colonsay Sub.			
				83.4	81.6	7.8 ELSTOW ..... YZ		1990	
				90.0	85.0	6.6 BLUCHER			
				97.1	95.9	7.1 CHEVIOT ..... YZ		1910	
				102.1	99.0 100.0 103.4 105.5	5.0 FLORAL ..... Z		1880	
				109.7	110.2	7.6 SUTHERLAND ..... CKWYZ	UR	Yard	
				110.2		0.5 CTC			
	CP 4			112.6	112.6	2.4			
				113.5		0.9 SASKATOON ..... Z		Yard	

TRACK-SIDE 1 PT/TN ONLY

Rule 41 applies

Rules 321 to 323 apply between Wynyard and Sutherland

Special Instruction Z applies

0 RADIO

0.1 Instructions for the use of Trackside Radio refer to Page 132.

(Continued on page 89)

SUTHERLAND SUBDIVISION FOOTNOTES—Continued

1 HOT BOX DETECTOR SYSTEM

1.1 Instructions for operation of hot box detector system apply. Refer Form CS 44, Section 18.

1.2

Direction	Mileage	Type	Inspection Point	Set-Off Point
Westward	26.2	Talker	Immediate	Esk
Westward	61.9	Talker	Immediate	Viscount
Westward	**92.6	Talker	Immediate	Cheviot
Eastward	26.2	Talker	Immediate	Jansen
Eastward	61.9	Talker	Immediate	Sclanders
Eastward	92.6	Talker	Immediate	Blucher

2 RESTRICTIONS

2.1 In addition to observing any more restrictive speed restrictions a train carrying one or more full carloads, container loads or trailer loads of any SPECIAL dangerous commodity the following speed restrictions apply—

EASTWARD must not exceed 35 miles per hour between Mileage 113.5 and Mileage 107.3.

WESTWARD must not exceed 35 miles per hour between Mileage 107.3 until train yarded Sutherland.

WESTWARD trains departing Sutherland must not exceed 35 miles per hour to Mileage 113.5 (See Wilkie Sub. footnote for speed restriction to Mileage 4.4 Wilkie Sub.)

2.2 Movements—
Floral, 5 miles per hour on Canada Cement Spur.

Mileage 59, 5 miles per hour on pit tracks.

2.3 In Lanigan Yard Limits, trains and engines must move at restricted speed and the "NOTE" in Rule 93 does not apply.

3 SPEEDS

3.1

	MILES PER HOUR
MAXIMUM SPEED	60
When handling over 7,500 tons	40

4 PERMANENT SLOW ORDERS

4.1

Mileage—Location	MILES PER HOUR
0.0 to 39.0	50
55.2 (on curve)	55
63.1 (on curve)	50
66.1 (on curve)	55
69.5 (on curve)	55
72.5 (on curve)	55
76.8 (on curve)	55
107.3 to 107.6 Eastward (8th Street)	*40
107.0 to 109.7	50
109.7 to 113.5	30
109.8 (Central Ave.) within 600 feet	*10

*Until crossing fully occupied.

6 RAILWAY CROSSINGS AT GRADE

6.1 Mileage 112.6
CN Rail and Yard Lead Switch—Interlocking controlled by CP Rail Dispatcher. Eastward approach signal located to left of track. Special Instruction G applies eastward—4 minutes.

Movements authorized to pass STOP signal must observe the requirements of Rule 672 in addition to Rule 1048 and then not exceed 5 miles per hour until crossing is occupied.

8 CENTRALIZED TRAFFIC CONTROL

8.1 CTC between Signal 1101 Sutherland and Signal 1126 Saskatoon.

9 MANUAL BLOCK SYSTEM

9.1 Manual Block System (MBS) Special Instructions apply between Wynyard and Sutherland.

10 AUTOMATIC BLOCK SIGNAL SYSTEM

10.1 Eastward:
Between Signal 386 and block end sign Mileage 36.7.

10.2 Westward:
Between Signal 355 and block end sign Mileage 38.6.

12 AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE

12.1 Mileage 15.1
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.2 Mileage 37.3
Eastward movements within 1950 feet of crossing in excess of 90 seconds must not exceed 10 miles per hour until crossing fully occupied. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

(Continued on page 90)

SUTHERLAND SUBDIVISION FOOTNOTES—Continued

AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE—Continued

12.3 Mileage 44.7
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.4 Mileage 56.1
Manual control for switching or standing clear on main track.

12.5 Mileage 70.0
Manual control for switching or standing clear. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.6 Mileage 75.8
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.7 Mileage 83.6
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.8 Mileage 109.8
Central Ave. MAIN TRACK. Manual control for switching or standing clear. Approaching movements must not exceed 10 miles per hour within 600 feet until crossing fully occupied.

LEAD TRACK. Manual control for switching or standing clear. Eastward approaching movements must not exceed 10 miles per hour within 370 feet and westward movements must not exceed 5 miles per hour within 180 feet until crossing fully occupied.

12.9 Mileage 110.0
115th St. Westward movements must not exceed 10 miles per hour through crossover at Mileage 109.9 until crossing fully occupied. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.10 Mileage 112.6
Movements on other than main track must stop at stop signs, actuate crossing signals by manual control and must not obstruct crossing until signals have been operating for at least one minute. Operation of crossing signals interconnected with roadway traffic signals.

Eastward Movements from Yard Lead
Indicator light mounted in northwest angle of diamond crossing. All movements must stop adjacent to the indicator light and must not occupy crossing until indicator light commences flashing. Indicator light will be steady-burning when circuit is occupied and will commence flashing after ONE minute. If indicator light does not operate, manual control must be operated in accordance with instructions in the box.

To comply with Rule 103, Paragraph 6, it will be necessary to clear interlocking signal and make reverse movement on signal indication.

12.11 Mileage 113.4
Idylwyld Drive. Approaching movements must not exceed 15 miles per hour within 1200 feet. Manual control for switching or standing clear on main track. Approaching movements on lead track must stop at stop signs and actuate signals by manual control. When actuating signals manually on main track or lead track, movements must not occupy crossing until signals have operated for 40 seconds. Operation of crossing signals interconnected with roadway traffic signals.

14 GENERAL FOOTNOTES

14.1 Public Crossing at Grade
24th Street—On K59 Industrial Lead Saskatoon, Rule 103, paragraph 5 applies.

14.2 Rule 99—Outside ABS Territory
When a train stops under circumstances in which it may be overtaken by another train, a flagman must immediately go back at least 2000 yards to ensure full protection.

14.3 Switch where Lanigan Sub. joins siding Lanigan is normal when set for Lanigan Sub.

14.4 Switch where Colonsay Sub. joins siding Colonsay is normal when set for Colonsay Sub.

14.5 Crossover switches immediately west of Central Ave. Sutherland, are normal when lined for crossover.

14.6 Whistle signal 14(I) is prohibited approaching all public crossings at grade between Mileage 107.26 (8th Street East) and Mileage 113.4 (Idylwyld Drive).

15 SPURS

15.1 Alwinsal Spur
Southward—Guernsey to Alwinsal.....1.4 miles
MILES PER HOUR
MAXIMUM SPEED.....25

15.2 Allan Spur
Southward—Elstow to Allan Mines.....4.3 miles
MILES PER HOUR
MAXIMUM SPEED.....25

15.3 Noranda Spur
Southward—Arpiers to Norco.....1.4 miles
MILES PER HOUR
MAXIMUM SPEED.....25
RESTRICTIONS
Diesel Units—
DRF30 prohibited on concentrator track.

15.4 Potasco Spur
Northward—Cheviot to Potasco.....3.9 miles
MILES PER HOUR
MAXIMUM SPEED.....25
Movements—
15 miles per hour on curves.

CP RAIL

MANUAL BLOCK SYSTEM CLEARANCE

1. Clearance Number 404 Date JAN 15 1988
To EXTRA 5986 SOUTH

2. Clearance Number ____ is cancelled.

3. Proceed _____
From SOUTH Y L SIGN LANIGAN
To NORTH Y L SIGN REGINA
N/A

Work _____
Between _____
And _____
Until MBS Clearance is Cancelled

4. After _____
Arrive(s) at _____

5. Do Not Leave _____ Before ____

6. A) Protect Against _____
Between _____
And _____
B) Protect Against _____
Between _____
And _____
C) Protect Against _____
Between _____
And _____

7. Joint Authority Granted with Foreman _____
Between _____
And _____
_____Must Not Enter, Nor Move Within
The Limits of the Track Occupancy Permit until Instructions
Have Been Received from Foreman _____

8. Bulletins 989 914 921

9. Call Train Dispatcher _____

10. Completed at 0331 SDK
Acknowledged by TRAINMAN _____ AT 0331
Acknowledged by _____ AT ____

11. Cancellation
This M.B.S. Clearance Number____ Is cancelled at _____
Acknowledged by _____ At ____
Acknowledged by _____ At ____

(For C & C use: 3002 3717 19880114 869)

Manual Block System Bulletin

APPENDIX "C" / ANNEXE "C"

CP Rail

Bulletin No. 989 Date JAN 4 1988

To:

LANIGAN SUB TRAINS

SIDING CRAVEN

BLOCKED WITH CARS

Made Complete at 0556 (Time) Train Dispatcher's initials

Acknowledged by [illegible] (Occupation/Name) 0556 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's initials)

CRo

Manual Block System Bulletin

APPENDIX "C" / ANNEXE "C"

CP Rail

Bulletin No. 9 1-4 **Date** JAN 7 1988

To:

LANIGAN SUB TRAINS

BE ON LOOKOUT FOR LOOSE RAILS
ON BOTH SIDES OF CURVE
MILEAGE FORTY TWO POINT SIX 42.6
LANIGAN SUB

Made Complete at 0056 (Time) **Train Dispatcher's Initials**

Acknowledged by OPR. (Occupation/Name) 0056 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) **By** (Train Dispatcher's Initials)

Manual Block System Bulletin

APPENDIX "C" / ANNEXE "C"

CP Rail

Bulletin No. 921 Date JAN 13 1988

To: SUTHERLAND SUB TRAINS

LANIGAN SUB TRAINS

NO THREE 3 SWITCH

ON WEST END OF EAST YARD

AT LANIGAN

OUT OF SERVICE

SWITCH SPIKED

Made Complete at 0125 (Time) Train Dispatcher's initials

Acknowledged by OPR (Occupation/Name) 0125 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's initials)

CnB

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

MANUAL BLOCK SYSTEM TRAIN SHEET

Page: 1

DISPATCHER: PEC LANIGAN SUBDIVISION JAN 15 1988

TRAIN DESIGNATION: EXTRA 5986 SOUTH
SHORT NAME: X 5986 S

ORIGIN	DESTINATION	TIME	DATE
LANIGAN	REGINA	2345	JAN 14 1988

CREW
CONDUCTOR:
ENGINEMAN:
TRAINMAN:
TRAINMAN:
TRAINMAN:

CLEAR OF REGINA M7.60 AT 0633

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

NORTHWARD TRAINS	END TO END CHANNEL	DISPATCHER CALL IN CHANNEL	MAINTENANCE OF WAY CHANNEL	MILES FROM REGINA	YARD LIMITS	LANIGAN SUBDIVISION — STATIONS	SIDING CAPACITY IN FEET	SOUTHWARD TRAINS
	CP 4			0.0	↓ 7.8	REGINA ..... CKWYZ	Yard	
				12.2		12.2 TREGARVA	2150	
				21.3		9.1 CRAVEN	8820	
				30.3		9.0 SILTON	1810	
				43.3	41.0 – 44.4	13.0 SULYEA ..... YZ	1730	
		CP 3				Jct. Sulyea Sub.		
↓	CP 1	3 PULSES	CP 13	50.7		7.4 STRASBOURG	2570	↑
				57.0		6.3 DUVAL		
				62.5		5.5 CYMRIC		
				67.4		4.9 GOVAN	1850	
				81.5		14.1 NOKOMIS	7400	
				90.6		9.1 LOCKWOOD		
				97.5		6.9 DRAKE	3380	
				104.6	103.0 ↑	7.1 V LANIGAN ..... WYZ	Yard	

TRACK-SIDE 1 PT/TN ONLY

Rule 41 applies

Rules 321 to 323 apply

Special Instruction Z applies

0 RADIO

0.1 Instructions for the use of Trackside Radio refer to Page 132.

1 HOT BOX DETECTOR SYSTEM

1.1 Instructions for operation of hot box detector system apply. Refer Form CS 44, Section 18.

1.2

Direction	Mileage	Type	Inspection Point	Set-Off Point
Northward	12.7	Display Board	Immediate	Craven
Southward	**12.7	Display Board	Immediate	First available track

2 RESTRICTIONS

2.1 In addition to observing any more restrictive speed restric ions a train carrying one or more full carloads, container loads or trailer loads of any SPECIAL dangerous commodity must not exceed 35 miles per hour between Mileage 0.0 and Mileage 10.0.

2.2 Auxiliary cranes–
20 miles per hour between Mileage 13.0 and Mileage 18.0.

3 SPEEDS

	MILES PER HOUR
3.1 MAXIMUM SPEED	40

4 PERMANENT SLOW ORDERS

4.1 Mileage–Location	MILES PER HOUR
0.0 to 7.6	25
13.0 to 25.0 (on curves)	25
42.6 (on curve)	30

(Continued on page 92)

LANIGAN SUBDIVISION FOOTNOTES—Continued

6 RAILWAY CROSSINGS AT GRADE

6.1 Mileage 0.8
CN Rail—Automatic Interlocking. Special Instruction G applies southward—3 minutes.
Push-buttons at interlocking signals to provide for return movement.

6.2 Mileage 1.6
CN Rail—Automatic Interlocking. Special Instruction G applies northward—3 minutes.

6.3 Mileage 81.1
CN Rail Interlocking controlled by CN Rail Dispatcher. Movement must not exceed 30 miles per hour at the governing approach signal. If communication fails or dispatcher authorizes movement to pass a STOP signal, the requirements of Rule 672 must be observed.

9 MANUAL BLOCK SYSTEM

9.1 Manual Block System (MBS) Special Instructions apply between Regina and Lanigan.

12 AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE

12.1 Mileage 0.5
After using switches Mileage 0.8, approaching movements must not exceed 10 miles per hour until crossing fully occupied.

12.2 Mileage 0.7
After using switches Mileage 0.8, approaching movements must not exceed 10 miles per hour until crossing fully occupied. Approaching movements passing a STOP signal at Mileage 0.8 under Rule 672 must not obstruct crossing until the crossing signals have been operating for at least 20 seconds.

12.3 Mileage 1.8
Manual control for switching or standing clear. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.4 Mileage 2.0
After using switches within 1500 feet of crossing, approaching movements must not exceed 15 miles per hour until crossing fully occupied.

12.5 Mileage 4.6
Manual control for switching or standing clear on main track.

12.6 Mileage 20.9
Southward movements within 1600 feet in excess of 2 minutes must not exceed 5 miles per hour until crossing fully occupied.

12.7 Mileage 50.2
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

14 GENERAL FOOTNOTES

14.1 Switch where Lanigan Sub. joins F Yard lead Regina is normal when set for Lanigan Sub.

14.2 Switch where Lanigan Sub. joins the siding at Lanigan is normal when set for Lanigan Sub.

January 16, 1988

TRANSCRIPT OF RADIO TRANSMISSION INVOLVING TRAIN 972-14 (DE 5986) ON THE SUTHERLAND AND LANIGAN SUBDIVISIONS AND THE WINNIPEG TRAIN DISPATCHER, JANUARY 15, 1989

ALL CONVERSATIONS WERE TAKEN FROM THE TAPING DEVICE IN THE CSC BUILDING, SUTHERLAND. CHANNELS MONITORED WERE CP 15 WHICH IS EAST POINT TO TRAIN AND CP 19 WHICH IS CHANNEL 1 END TO END.

TIME		
0050:56	DISPATCHER----------	Dispatcher Winnipeg - Over.
0050:58	HEADEND----------	Dispatcher Winnipeg 5986 Sutherland looking to go to Lanigan - Over.
0051:04	DISPATCHER----------	Okay fellows - are both ends okay to copy?
0051:08	HEADEND----------	Headend's ready.
0051:10	TAILEND----------	Ya - Tailend's ready.
0051:13	DISPATCHER ----------	One - MBS clearance number four nought two dated January the 15th,1988 to the Extra five nine eight six East. Three - Proceed from east yard limit sign Sutherland to west yard limit sign Lanigan, Third line is N/A.

Item eight - Bulletins nine eight seven nine twenty one nine twenty nine, over.

0051:58 - TAILEND ----------Clearance number four nought two date January 15, 1988 to Extra fifty nine eighty six East.
Three - Proceed from east yard limit sign Sutherland to west yard limit sign Lanigan - N/A

Eight - bulletins - nine eighty seven, nine twenty one, nine twenty nine.

0052:13 - HEADEND----------One - clearance number four nought two January 15,1988 to Extra fifty nine eighty six East.

Three - proceed from east yard limit sign Sutherland to west yard limit sign Lanigan, third line N/A

Eight - bulletins - nine eighty seven, nine twenty one, nine twenty nine, over

0052:28 - DISPATCHER ---------Ten - show that made complete at nought nought fifty two, nought nought five two - Train Dispatcher
Over.

0052 45 - HEADEND----------OK, made it complete at nought nought five two ., acknowledged by trainman at nought nought fifty two.

0052:53 - DISPATCHER----------OK, thanks very much.

0052:58 - TAILEND----------Tailend Extra 5986 East to the Headend Pull whenever you are ready.

0053:08 - HEADEND----------Okay - I am going to step outside for a second and then we'll go.

0054:23 - TAILEND----------UH - Tailend is moving 5986.

0209:27 - DISPATCHER----------Dispatcher Winnipeg - Over

0209:40 - DISPATCHER----------Dispatcher Winnipeg - Over

0209:56 - DISPATCHER----------Is someone calling the Sutherland Sub Dispatcher - Over.

0210:01 - HEADEND----------Yes Winnipeg - 5986 - we've arrived yard limits Lanigan 0208.

0210:10 - DISPATCHER---------0208 - clear of the West yard limit sign Lanigan for the 5986 East-is that correct?

0210:17 - HEADEND----------That's correct.

0210:20 - DISPATCHER---------Okay fellows. How much work do you have at Lanigan this morning?

0210:25 - HEADEND----------What was that again?

0210:27 - DISPATCHER---------I said how much work do you have at Lanigan this morning?

0210:31 - HEADEND----------Oh! We've got to set off a unit and back into the siding and make one straight lift, brake test on about 80 cars.

0210:40 - DISPATCHER---------Okay.

0311:12 - DISPATCHER---------Extra 5986 at Lanigan, Dispatcher Winnipeg, over.

0311:18 -HEADEND----------5986 - Go ahead Dispatcher Winnipeg.

0311:21 -DISPATCHER----------Uh, fellows, would you be okay to take Clearance, or are you still switching at Lanigan?

0311:26 -HEADEND----------Uh, we're a bit busy right now.

0311:29 -DISPATCHER----------Okay, give me a call when you're all set then please.

0311:32 -HEADEND----------Okay, what's doing for us Dispatcher Winnipeg, or do you know?

0311:34 -DISPATCHER----------Uh, I believe it looks like a deadhead home for you if you get down before eight.

0311:40 - HEADEND----------A deadhead home for us, okay.

0311:45 -HEADEND----------Okay, back up three cars to joint 5986.

0330:15 - DISPATCHER----------Dispatcher Winnipeg - over.

0330:18 - HEADEND----------Dispatcher Winnipeg - fifty nine eighty six South looking for a clearance.

0330:22 - DISPATCHER----------Both ends OK?

0330:25 - HEADEND----------Yes, go ahead.

0330:28 - DISPATCHER----------Item one MBS clearance number four nought four, four zero four, dated January the 15th, nineteen eighty eight to the Extra five nine eight six South.

Three - proceed from South yard limit sign Lanigan to North yard limit sign Regina - third line is N/A.

Item eight - bulletins nine eighty nine nine fourteen, nine twenty one - over.

0331:09 - TAILEND ----------Tailend, clearance number four nought four date January fifteen nineteen eighty eight to extra fifty nine eighty six south.

Three - proceed from south yard limit sign Lanigan to north yard limit sign Regina - N/A.

Eight - bulletins - nine eight nine, nine fourteen, nine twenty one.

0331:25 - HEADEND----------Headend - one - clearance number four nought four, January fifteenth, nineteen eighty eight to extra fifty nine eighty six South.

Three - proceed from South yard limit sign Lanigan to North yard limit sign Regina, third line N/A.

Eight - bulletins - nine eighty nine, nine fourteen, nine twenty one over.

0331:42 - DISPATCHER---------Ten - Completed at nought three thirty one, nought three three one train dispatcher - over.

0331:49 - HEADEND----------Ten - Completed at nought three thirty one acknowledged by Trainman nought three thirty one.

0331:55 - DISPATCHER---------OK - What kind of cars do you have coming out of Lanigan to Regina this morning please?

0332:06 - TAILEND----------Altogether I got about, uh, hundred and one right about now, but we should have about, uh, seventy some cars into Regina.

0332:16 - DISPATCHER---------OK - thank you.

0332:21 - TAILEND----------Uh, Three Thirty (Dispatcher cutout tower in the middle of this transmission.)

NO OTHER RADIO TRANSMISSIONS RECEIVED FROM LANIGAN SUBDIVISION ON SUTHERLAND RECORDING DEVICE.

TRANSCRIPT OF RADIO TRANSMISSION
INVOLVING EXTRA 5986 SOUTH, LANIGAN SUB.
JANUARY 15, 1988

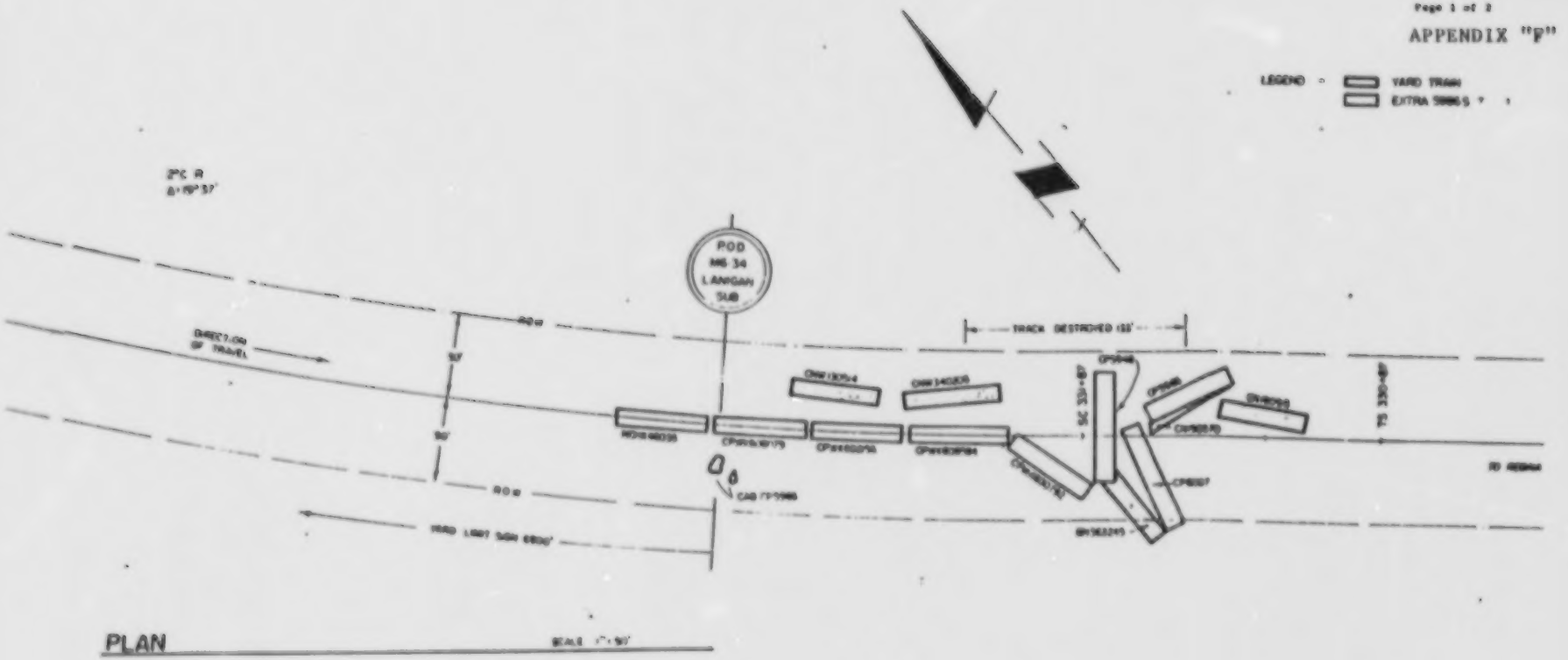
NOTE: This transcript has been corrected to reflect that the time denoted on the Moose Jaw Taping Device was fourteen (14) seconds fast as compared to the Mechanized Time Signal. In addition, conversations which were taped by the taping device in Winnipeg have been chronologically inserted into this transcript. These times have been corrected to reflect that the time denoted on the Winnipeg Taping Device was three (3) seconds slow as compared to the Mechanized Time Signal.

Channel and Tape Location	Corrected Time	
Moose Jaw 4	06:29:39	Headend-----Go ahead 5986, Channel 4. or Tailend Headend------Channel 4. or Tailend
Moose Jaw 4	06:29:56	Headend------5986 South calling Regina Yardmaster.
Moose Jaw 4	06:30:16	Headend-----5986 South calling Regina Yardmaster.
Moose Jaw 4	06:31:55	Headend-----5986 South calling Regina Yardmaster.
Moose Jaw 4	06:32:43	Yardmaster--Regina Yard, go ahead 5986.
Moose Jaw 4	06:32:47	Headend-----Yeah, we're at Ipsco [illegible], that's about 77 cars.

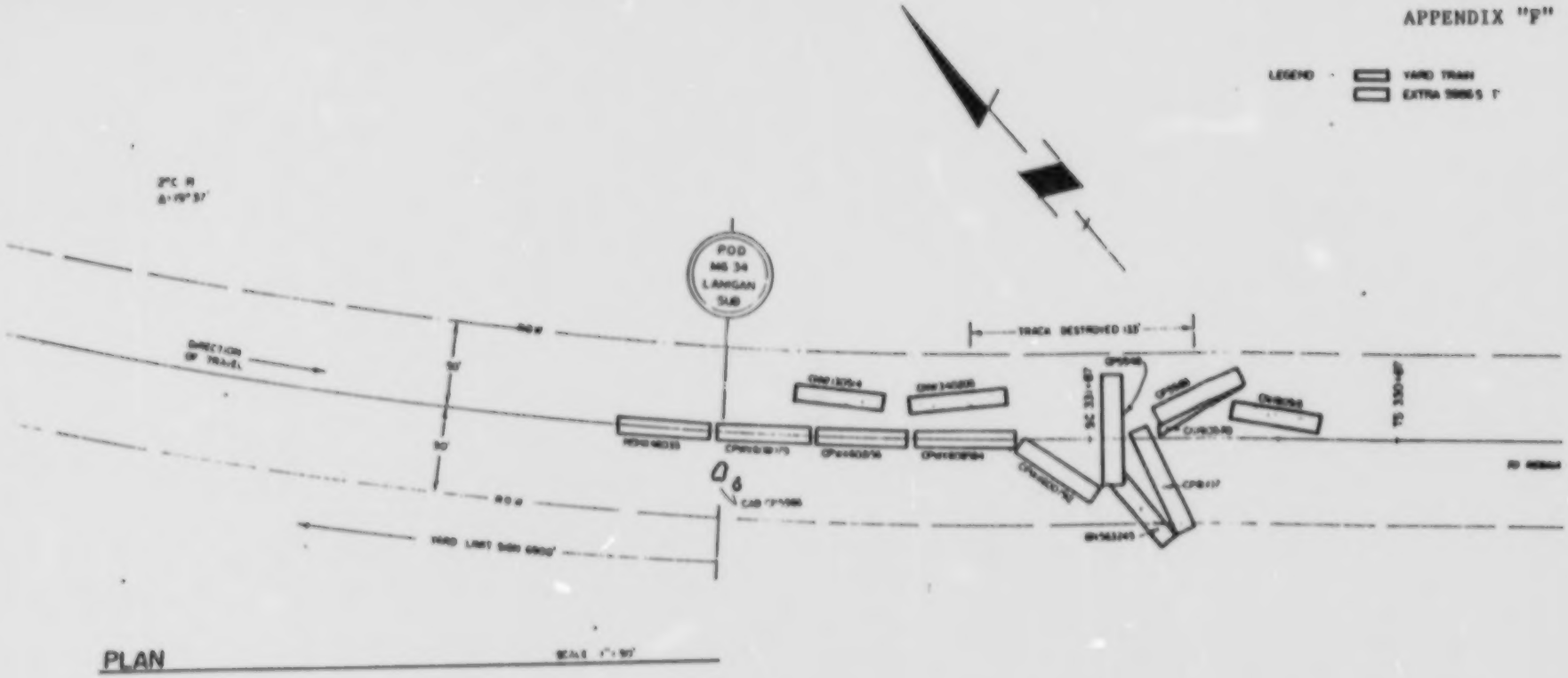
Moose Jaw	4	06:32:51	Yardmaster--Yard Engine out there somewhere, let me talk to them and get back to you.
Winnipeg	1	06:33:41	Dispatcher--Dispatcher Winnipeg, over.
Winnipeg	1	06:33:43	Tailend-----Ah, Dispatcher, Tailend Extra 5986 South was clear of North Yard Limit Sign Regina at 0633.
Winnipeg	1	06:33:51	Dispatcher--Extra 5986 South clear of the north Yard Limit Sign Regina at 0633. Clear at 0633, ah.
Winnipeg	1	06:34:08	Tailend-----Ah, that's correct, over.
Winnipeg	1	06:34:09	Dispatcher--Ah, Okay fellows, thank you.
Moose Jaw	4	06:34:20	Tailend-----Calling the Headend of 5986.
Moose Jaw	4	06:34:26	Yardmaster--Yard to the 5986, come in please.
Moose Jaw	4	06:34:38	Tailend-----Calling the Headend of the 5986.
Moose Jaw	4	06:34:46	Yardmaster--Hello, (called Engineman by name)
Moose Jaw	4	06:34:54	Tailend-----Calling the Headend of the 5986, over.
Winnipeg	1	06:34:58	Tailend-----Hello (called Engineman by name)

Moose Jaw	4	06:35:08	Yardmaster--I was just talking to him ; I don't know where they got to.
Moose Jaw	4	06:35:13	Tailend-----Well, the train went into emergency and I haven't been able to raise them on the radio so I might have to walk up here.
Moose Jaw	4	06:35:23	Yardmaster--OK.
Moose Jaw	4	06:35:26	Tailend-----Calling the Headend 5986, over.

APPENDIX "P"


LEGEND
YARD TRACK
EXTRA SIDINGS
POD
MS 34
LANGAN
SUB
TRACK DESTROYED (3)
PLAN

APPENDIX "P"


LEGEND
YARD TRAIN
EXTRA
POD
NO 34
LANGAN
SUB
TRACK DESTROYED 133'
TO 330+6P
TO 330+6P
PLAN

SPECIAL INSTRUCTIONS—Continued

H—RIDING ON TOP OF CARS AND CARS EQUIPPED WITH HAND BRAKE PLATFORM

Employees are prohibited from riding on the tops of cars or cabooses not equipped with running boards.

Employees are prohibited from riding on the tops of cars or cabooses equipped with running boards except when necessary in switching or making up trains in yards or industrial spurs.

Where restricted overhead clearances exist, employees are prohibited from riding on high hand brake platform.

I—The use of mood altering agents by employees subject to duty or their possession or use while on duty, is prohibited except as prescribed by a Doctor. In addition each employee taking medication as prescribed by a Doctor, or otherwise, is responsible for taking only such amount as will ensure that he or she does not become incapacitated for work and if by prescription, no more than the amount prescribed at the intervals prescribed.

J—Restrictions for movement of Freight Cars having a gross weight up to 263,000 pounds are specified in Subdivision footnotes and Equipment Authorization Chart. Authority for movement of Freight Cars having a gross weight in excess of 263,000 pounds must be secured from the Superintendent.

K—Main track switches may be equipped with reflectorized lenses or targets of the prescribed colours in lieu of lights, and yard limit signs may be reflectorized in lieu of lights.

L—Retaining valves must be used on 50% of the cars on freight trains on descending grades of 2% or over if the tonnage is in excess of full haulage capacity for the ascending grade for the diesel units on which the dynamic brake is in effective operating condition, unless the train is controlled with a pressure maintaining brake valve. Otherwise Rule 34, of appendix to Form 582A(1986), applies.

Rule 34 of appendix in Form 582A(1986), does not apply to Rail Diesel Cars.

M.1—WHEN PROVIDING PROTECTION UNDER RULES 40, 41, 42 AND TIME TABLE SPECIAL INSTRUCTION "Y", THE FOLLOWING WILL APPLY—

(a) Maintenance of Way Employees must not permit a train to proceed over the defective point or through the working area until it is known that the track is passable and all machines are clear, except that—

(b) If the main track is clear up to a specified point, the train may be permitted to proceed to that point where it must stop and wait further instructions.

(c) Speed restrictions and any instructions given a train under (b) must be authorized by the Foreman in charge, must be in writing, and not delivered until the train has been brought to a stop.

The requirements of (c) do not apply when protection is provided under Form Y Example 2, 3 or 4 train order and radios are functioning.

M.2—PROTECTION OF TRACK UNITS AND MAINTENANCE WORK AT CONTROLLED INTERLOCKED RAILWAY CROSSINGS AT GRADE AND DRAWBRIDGES

In conjunction with U.C.O.R. Rules 623 and 625, a separate Track Occupancy Permit may be used to protect Track Units and Maintenance Work at CONTROLLED interlocked railway crossings at grade and drawbridges.

Form 3815, Regulations for the Protection of Track Units and Maintenance Work, is modified accordingly.

(Continued on page 112)

...may result in internal bleeding. Surgery or trauma ...
...polyposis, severe ...
...disorders.
...anticoagulant therapy is not generally ...
...dose gradually over 3 to 4 weeks.
...congestive heart failure may become more sensitive to ...
...requiring more frequent laboratory monitoring, and ...
...doses of warfarin. Concurrent use of anticoagulants with ...
...or cefotetan is not recommended and may be ...
...Periodic determination of prothrombin time or other ...
...is essential.
...factors, alone or in combination, including travel, ...
...to diet, environment, physical stress and medication may ...
...response of the patient to anticoagulants. It is generally ...
...practice to monitor the patient's response with additional ...
...time determinations in the period immediately after ...
...discharge from the hospital, and wherever other medications are ...
...discontinued or taken haphazardly. The following factors ...
...listed for your reference; however, other factors may also affect ...
...prothrombin responses.

The following factors, alone or in combination, may be responsible for increased prothrombin time response:

Endogenous Factors: carcinoma, collagen disease, congestive heart failure, diarrhea, elevated temperature, hepatic disorders, infectious hepatitis, jaundice, poor nutritional state, vitamin K deficiency, vomiting.

Exogenous Factors: alcohol†, allopurinol, aminosalicylic acid, anabolic steroids, antibiotics, bromelains, chloral hydrate†, chlorpropamide, chymotrypsin, cimetidine, clofibrate, warfarin overdosage, dextran, dextrothyroxine, diazoxide, dietary deficiencies, diuretics, disulfiram, drugs affecting blood elements, ethacrynic acid, glucagon, hepatotoxic drugs, indomethacin, inhalation anesthetics, mefenamic acid, methyldopa, methylphenidate, metronidazole, monoamine oxidase inhibitors, nalidixic acid, oxalinic acid, oxyphenbutazone, phenylbutazone, phenyramidol, prolonged hot weather, prolonged narcotics, quinidine, quinine, salicylates, sulfinpyrazone, sulfonamides, thyroid drugs, tolbutamide, triclofos sodium, trimethoprim/sulfamethoxazole, unreliable prothrombin time determinations.

Decreased and decreased prothrombin time responses have been reported.

The following factors, alone or in combination, may be responsible for decreased prothrombin time response:

Endogenous Factors: diabetes mellitus, edema, hereditary resistance to coumarin therapy, hyperlipemia, hypothyroidism.

Exogenous Factors: adrenocorticosteroids, alcohol†, antacids, antihistamines, barbiturates, chloral hydrate†, chlordiazepoxide, cholestyramine, warfarin underdosage, diet high in vitamin K (vegetables, fish, fish oil, onions), diuretics, ethchlorvynol, glutethimide, griseofulvin, haloperidol, meprobamate, oral contraceptives, paraldehyde, pyrimidone, primidone, rifampin, unreliable prothrombin time determinations, ascorbic acid.

Increased and decreased prothrombin time responses have been reported.

If a patient may be exposed to a combination of the above factors, some of which may increase and some decrease the patient's sensitivity to warfarin (crystalline warfarin sodium), Because the net effect on prothrombin time response may be unpredictable under these circumstances, more frequent laboratory monitoring is advisable.

Drugs not yet shown to interact or not to interact with coumarins are best regarded with suspicion, and when their administration is started or stopped, the prothrombin time should be determined more often than usual.

Coumarins also affect the action of other drugs. Hypoglycemic agents (chlorpropamide, tolbutamide and glyburide) and anticonvulsants (phenytoin and phenobarbital) may accumulate in the body as a result of interference with either their metabolism or excretion.

Adverse Effects: Minor or major hemorrhage from any tissue or organ, which is an extension of the physiologic activity of prothrombinopenia. Bleeding during anticoagulant therapy does not always correlate with prothrombin activity (see Overdose: Treatment).

Bleeding which occurs when the prothrombin time is within the therapeutic range warrants diagnostic investigation since it may unmask a previously unsuspected lesion, e.g. tumor, ulcer, etc.

Adverse effects other than hemorrhage are infrequent and consist of alopecia, urticaria, dermatitis, fever, nausea, diarrhea, hypersensitivity reactions and an extremely rare reaction consisting of hemorrhagic infarction and necrosis of the skin.

Overdose: Symptoms: Prolonged elevation of the prothrombin time and/or hemorrhage.

Treatment: Excessive prothrombinopenia, with or without bleeding, is readily controlled by discontinuing warfarin, and if necessary, the oral or parenteral administration of vitamin K_1. The appearance of microscopic hematuria, melena, petechiae or oozing from nicks made with shaving are early manifestations of hypoprothrombinemia beyond a safe and satisfactory level.

In excessive prothrombinopenia with mild or no bleeding, omission of one or more doses of warfarin may suffice; and if necessary, small doses of vitamin K_1 orally, 2.5 mg, will usually correct the problem.

If minor bleeding persists, or progresses to frank bleeding, vitamin K_1 in doses of 10 to 25 mg may be given parenterally. (Read vitamin K preparation package inserts carefully prior to use.)

Fresh whole blood transfusions should be considered in cases of severe bleeding or prothrombinopenic states unresponsive to vitamin K_1.

Resumption of warfarin administration reverses the effect of vitamin K_1, and a therapeutic hypoprothrombinemia level is readily obtained.

Dosage: The aim of anticoagulant therapy is to impede the coagulation or clotting mechanism to such an extent that thrombosis will not occur, but at the same time avoiding such extensive impairment as might produce spontaneous bleeding.

The administration and dosage of warfarin must be individualized for each patient according to the particular patient's sensitivity to the drug as indicated by the prothrombin time. The prothrombin time reflects the depression of vitamin K dependent factors, namely Factors VII, IX, X and II, the factors affected by coumarin anticoagulants. There are several modifications of the Quick one-stage prothrombin time and the physician should become familiar with the specific method used in his laboratory.

Administration of warfarin should be gauged according to prothrombin time determinations by a suitable method. The blood prothrombin time should usually be determined daily after the administration of the initial dose until prothrombin time results stabilize in the therapeutic range. Intervals between subsequent prothrombin time determinations should be based upon the physician's judgment of the patient's reliability and response to warfarin in order to maintain the individual within the therapeutic range. Satisfactory levels for maintenance of therapeutic prothrombinopenia are 1.5 to 2.5 times the normal prothrombin time (e.g. 21 to 30 seconds, with a control of 14 seconds).

Induction: In most cases anticoagulation therapy will be commenced by I.v. heparin for rapid response. One dose of 15 to 25 mg of warfarin should be administered at the commencement of treatment to the average adult or half that dose to the elderly or debilitated patient. On following days the dose and interval should be gauged by the patient's prothrombin response. I.V. heparin is generally discontinued by the third day.

Maintenance: The usual maintenance dose is 2 to 10 mg per day.

The duration of therapy in each patient should be individualized. In general, anticoagulant therapy should be continued until the danger of thromboses and embolism has passed.

The management of patients who undergo dental and surgical procedures requires close liaison between attending physicians, surgeons and dentists. Interruption of anticoagulant therapy may precipitate thromboembolism, and conversely, if anticoagulants are maintained at full doses, some patients may hemorrhage excessively. If it is elected to administer anticoagulants prior to, during or immediately following dental or surgical procedures, the dosage of warfarin should be adjusted to maintain the prothrombin time at approximately 1.5 to 2 times the control level. The operative site should be sufficiently limited to permit the effective use of local procedures for hemostasis including absorbable hemostatic agents, sutures, and pressure dressings if necessary. Under these conditions dental and surgical procedures may be performed without undue risk of hemorrhage.

Supplied: Each scored (one side), biconvex, uncoated light blue tablet contains: 5 mg of warfarin potassium. Sodium and sugar content: nil. Tartrazine-free. Also contains corn starch, lactose 168 mg and potassium <1 mmol (0.56 mg). Bottles of 100.

Store in light resistant containers. Expiration period: 3 years from date of manufacture.

(Shown in Product Recognition Section)

Reviewed 1985

ATIVAN® Wyeth

Lorazepam — *Anxiolytic—Sedative*

Pharmacology: Lorazepam is a benzodiazepine with CNS depressant, anxiolytic and sedative properties. Peak serum concentrations of free lorazepam after oral administration are reached in 1 to 6 hours. Peak concentrations are reached in 60 to 90 minutes after I.m. administration and in 60 minutes after sublingual administration. Lorazepam is 85% bound to plasma proteins. Lorazepam is rapidly conjugated to an inactive glucuronide. Very small amounts of other metabolites have also been isolated in man. The serum half-life of lorazepam is approximately 12 to 15 hours while the half-life of the conjugate is 18 to 20 hours. Ninety-five percent of the drug was excreted within 120 hours, 88% in the urine and 6.9% in the stool.

Anterograde amnesia, decreased or lack of recall of events during period of drug action, has been reported after administration of lorazepam and appears to be dose-related.

Indications: The short-term relief of manifestations of excessive anxiety in patients with anxiety neuroses. Adjunct for the relief of excessive anxiety that might be present prior to surgical procedures.

Anxiety and tension associated with the stresses of everyday life usually do not require treatment with anxiolytic drugs.

Injectable lorazepam is useful as an initial antiepileptic medication for the control of status epilepticus.

Contraindications: Myasthenia gravis, acute narrow angle glaucoma, known hypersensitivity to benzodiazepines. Lorazepam injectable is also contraindicated in patients with known hypersensitivity to polyethylene glycol, propylene glycol or benzyl alcohol.

Lorazepam must not be injected intraarterially and care should be taken to prevent its extravasation into tissue adjacent to an artery because of the danger of producing arteriospasm resulting in gangrene which may require amputation.

Warnings: Lorazepam is not recommended for use in depressive neuroses or in psychotic reactions. Because of the lack of sufficient clinical experience, lorazepam is not recommended for use in patients less than 18 years of age. Since lorazepam has a CNS depressant effect, patients should be advised against the simultaneous use of other CNS depressant drugs. Patients should also be cautioned not to take alcohol during the administration of lorazepam because of the potentiation of effects that may occur.

Occupational hazards: Excessive sedation has been observed with lorazepam at standard therapeutic doses. Therefore, patients should be warned against engaging in hazardous activities requiring mental alertness and motor coordination, such as operating dangerous machinery or driving motor vehicles.

Prior to I.v. use, lorazepam injection should be diluted with an equal amount of compatible diluent (see Dosage). I.V. injection should be made slowly and with repeated aspiration. Care should be taken to determine that any injection will not be intraarterial and that perivascular extravasation will not take place. Partial airway obstruction may occur in heavily sedated patients. I.V. lorazepam, when given alone in greater than the recommended dose, or at the recommended dose and accompanied by other drugs used during the administration of anesthesia, may produce heavy sedation; therefore, equipment necessary to maintain a patent airway and to support respiration/ventilation should be available.

As with any premedicant, extreme care must be used in administering lorazepam injection to elderly or very ill patients and to those with limited pulmonary reserve, because of the possibility that apnea and/or cardiac arrest may occur. Because of the lack of sufficient clinical experience lorazepam injection is not recommended for use in patients less than 18 years of age.

Clinical trials have shown that patients over the age of 50 years may have a more profound and prolonged sedation with I.v. lorazepam. Ordinarily an initial dose of 2 mg may be adequate, unless a greater degree of lack of recall is desired.

There is no evidence to support the use of lorazepam injection in coma, shock or acute alcohol intoxication at this time. When lorazepam injection is used in patients with mild to moderate hepatic or renal disease, the lowest effective dose should be considered since drug effect may be prolonged.

As is true of other similar CNS acting drugs, patients receiving injectable lorazepam should not operate machinery or engage in hazardous occupations or drive a motor vehicle for a period of 24 to 48 hours. Impairment of performance may persist for greater intervals because of extremes of age, concomitant use of other drugs, stress of surgery or the general condition of the patient.

The addition of scopolamine to injectable lorazepam is not recommended, since their combined effect may result in increased incidence of sedation, hallucination and irrational behaviour.

Care should be exercised when administering lorazepam to patients with status epilepticus, especially when the patient has received other CNS depressants or is severely ill. The possibility that respiratory arrest may occur or that the patient may have partial airway obstruction should be considered. Proper resuscitation equipment should be available.

Pregnancy: The safety of the use of lorazepam in pregnancy has not been established. Therefore, it is not recommended for use during pregnancy or lactation. Several studies have suggested an increased risk of congenital malformations associated with the use of the benzodiazepines, chlordiazepoxide and diazepam, and meprobamate, during the first trimester of pregnancy. Since lorazepam is also a benzodiazepine derivative, its administration is rarely justified in women of childbearing potential. If the drug is prescribed to a woman of childbearing potential, she should be warned to contact her physician regarding discontinuation of the drug if she intends to become or suspects that she is pregnant.

In women, blood levels obtained from umbilical cord blood indicate placental transfer of lorazepam and lorazepam glucuronide. Lorazepam injection should not be used during pregnancy. There are insufficient data regarding obstetrical safety of parenteral lorazepam, including use in cesarean section. Such use, therefore, is not recommended.

Precautions: Elderly and debilitated patients, or those with organic brain syndrome, have been found to be prone to CNS depression after even low doses of benzodiazepines. Therefore, medication should be initiated in these patients with very low initial doses, and increments

should be made gradually, depending on the patient's response, in order to avoid oversedation or neurological impairment. Extreme care should be used in administering lorazepam injection to elderly patients, very ill patients, and to patients with limited pulmonary reserve, because of the possibility that underventilation and/or hypoxic cardiac arrest may occur. Resuscitative equipment for ventilatory support should be readily available.

Lorazepam should not be administered to individuals prone to drug abuse.

Observe caution in patients who are considered to have potential for psychological dependence. Lorazepam should be withdrawn gradually if it has been used in high dosage.

As with other benzodiazepines, lorazepam injection has a low potential for abuse and may lead to limited dependence. Although there are no clinical data available for injectable lorazepam in this respect, physicians should be aware that repeated doses over a prolonged period of time may result in limited physical and psychological dependence.

Lorazepam is not recommended for the treatment of psychotic or depressed patients. Since excitement and other paradoxical reactions can result from the use of these drugs in psychotic patients, they should not be used in ambulatory patients suspected of having psychotic tendencies.

As with other anxiolytic-sedative drugs, lorazepam should not be used in patients with nonpsychological anxiety. These drugs are also not effective in patients with characterological and personality disorders or those with obsessive-compulsive neurosis.

When using lorazepam, it should be recognized that suicidal tendencies may be present and that protective measures may be required.

Since the liver is the most likely site of conjugation of lorazepam and since excretion of conjugated lorazepam is a renal function, the usual precautions should be taken if lorazepam is used in patients who may have some impairment of renal or hepatic function. In such cases, the dose should be very carefully titrated.

In patients for whom prolonged lorazepam therapy is indicated, periodic blood counts and liver function tests should be carried out.

When injectable lorazepam is used in patients with mild to moderate hepatic or renal disease, the lowest effective dose should be considered since drug effect may be prolonged.

While lorazepam has been shown to control status epilepticus promptly, it is not recommended for maintenance treatment of epilepsy. After seizures are controlled, agents useful in the prevention of further seizures should be administered. In the treatment of status epilepticus due to acute reversible metabolic derangement (e.g., hypoglycemia, hypocalcemia, hyponatremia) immediate efforts should be made to correct the specific defect.

Drug interaction: If lorazepam is to be combined with other drugs acting on the CNS, careful consideration should be given to the pharmacology of the agents to be employed because of the possible potentiation of drug effects. The benzodiazepines, including lorazepam, produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

Lorazepam injection, like other injectable benzodiazepines, also produces depression of the CNS when administered with ethyl alcohol, phenothiazines, barbiturates, MAO inhibitors and other antidepressants. When scopolamine is used concomitantly with injectable lorazepam, an increased incidence of sedation, hallucinations and irrational behaviour has been observed.

When lorazepam injection is used I.V. as the premedicant prior to regional or local anesthesia, the possibility of excessive sleepiness or drowsiness may interfere with patient cooperation to determine levels of anesthesia. This is most likely to occur when a dose greater than 0.05 mg/kg is given and when narcotic analgesics are used concomitantly with the recommended dose.

Adverse Effects: Drowsiness is the most frequently reported adverse effect. Other reported adverse effects are dizziness, weakness, fatigue and lethargy, disorientation, ataxia, anterograde amnesia, nausea, change in appetite, change in weight, depression, blurred vision and diplopia, psychomotor agitation, sleep disturbance, vomiting, sexual disturbance, headache, skin rashes, gastrointestinal, ear, nose and throat, musculoskeletal and respiratory disturbances.

Release of hostility and other paradoxical effects, such as irritability and excitability have occurred with benzodiazepines. In addition, hypotension, mental confusion, slurred speech, oversedation and abnormal liver and kidney function tests and hematocrit values have been reported with these drugs.

The most frequent adverse effects seen with injectable lorazepam are an extension of the CNS depressant effects of the drug. Excessive sleepiness and drowsiness are the main side effects; the incidences reported depended on the dosage, route of administration, concomitant use of other CNS depressants and the investigators' expectations concerning the degree and duration of sedation.

When injectable lorazepam was given I.V., patients over 50 years of age had a higher incidence of excessive sedation than patients under 50 years of age. Restlessness, confusion, depression, crying, sobbing, hallucinations, dizziness, diplopia have been reported. Hypertension and hypotension have occasionally been observed after injectable lorazepam.

Respiratory depression and partial airway obstruction have been observed after injectable lorazepam. Slow pulse, nausea and vomiting have been noted occasionally in patients who have received injectable lorazepam combined with other drugs during anesthesia and surgery.

Pain at the injection site, a sensation of burning, and redness in the same area have been reported after I.M. administration of injectable lorazepam. Pain at the immediate postinjection period and redness at the 24 hour observation period also have been reported after I.V. administration of injectable lorazepam.

Overdose: Symptoms: With benzodiazepines, including lorazepam, symptoms of mild overdosage include drowsiness, mental confusion and lethargy. In more serious overdosage, symptoms may include ataxia, hypotonia, hypotension, stages I to III coma and, very rarely, death.

Treatment: In the case of an oral overdose, if vomiting has not occurred spontaneously and the patient is fully awake, it may be induced with 20 to 30 mL of ipecac syrup USP. Institute gastric lavage as soon as possible, and introduce 50 to 100 g of activated charcoal to the stomach and allow it to remain there. Institute general supportive therapy as indicated. Vital signs and fluid balance should be carefully monitored. An adequate airway should be maintained and assisted respiration used as needed. With normally functioning kidneys, forced diuresis with I.V. fluids and electrolytes may accelerate elimination of benzodiazepines from the body. In addition, osmotic diuretics such as mannitol may be effective as adjunctive measures. In more critical situations, renal dialysis and exchange blood transfusions may be indicated. Published reports indicate that I.V. infusion of 0.5 to 4 mg of physostigmine at the rate of 1 mg/minute may reverse symptoms and signs suggestive of central anticholinergic overdose (confusion, memory disturbance, visual disturbances, hallucinations, delirium); however, hazards associated with the use of physostigmine (i.e., induction of seizures) should be weighed against its possible clinical benefit.

Dosage must be individualized and carefully titrated in order to avoid excessive sedation or mental and motor impairment. As with other anxiolytic sedatives, short courses of treatment should usually be the rule for the symptomatic relief of disabling anxiety in psychoneurotic patients and the initial course of treatment should not last longer than 1 week without reassessment of the need for a limited extension. Initially, not more than 1 week's supply of the drug should be provided and automatic prescription renewals should not be allowed. Subsequent prescriptions, when required, should be limited to short courses of therapy.

Generalized anxiety disorder: The recommended initial adult daily dosage is 2 mg in divided doses of 500 µg, 500 µg and 1 mg, or of 1 mg and 1 mg. The daily dosage should be carefully increased or decreased by 500µg depending upon tolerance and response. The usual daily dosage is 2 to 3 mg. However, the optimal dosage may range from 1 to 4 mg daily in individual patients. Usually, a daily dosage of 6 mg should not be exceeded.

The initial daily dose in elderly and debilitated patients should not exceed 500µg and should be very carefully and gradually adjusted, depending upon tolerance and response.

Excessive anxiety prior to surgical procedures: Adults: Usually 50 µg/kg to a maximum of 4 mg given sublingually (1 to 2 hours before surgery) or I.M. (2 to 3 hours before surgery). As with all premedicant drugs, the dose should be individualized. Doses of other CNS depressant drugs should ordinarily be reduced.

When a rapid onset of action is required, lorazepam may be given I.V., 15 to 20 minutes before surgery. The usual I.V. dose is 44 µg/kg or 2.0 mg total, whichever is smaller.

I.V. doses in excess of 2 mg should be restricted to patients of unusual size. A dose of 2 mg should not ordinarily be exceeded in patients over 50 years of age. Doses of other CNS depressants should ordinarily be reduced.

Equipment necessary to maintain a patent airway should be immediately available prior to I.V. administration of lorazepam.

Status Epilepticus: Adults: The usual recommended initial dose of lorazepam is 0.05 mg/kg up to a maximum of 4 mg given by slow I.V. injection. If seizures are terminated, no additional lorazepam is required. If seizures continue or recur after a 10 to 15 minute observation period, an additional I.V. dose of 0.05 mg/kg may be administered. If the second dose does not result in seizure control after another 10 to 15 minute observation period, other measures to control status epilepticus should be employed. A maximum of 8 mg only, of lorazepam, should be administered during a 12 hour period.

Administration: The sublingual tablet, when placed under the tongue, will dissolve in approximately 20 seconds. The patients should not swallow for at least 2 minutes to allow sufficient time for absorption.

When given I.M., lorazepam injection, undiluted, should be injected deep into a muscle mass.

Lorazepam injectable can be used with atropine sulfate, narcotic analgesics, other parenterally used analgesics, commonly used anesthetics and muscle relaxants. The use of scopolamine with lorazepam injection is not recommended since this combination has been associated with a higher incidence of adverse reactions.

Immediately prior to I.V. use, lorazepam injection must be diluted with an equal volume of compatible solution. When properly diluted the drug may be injected directly into the vein or into the tubing of an existing I.V. infusion. The rate of injection should not exceed 2 mg/minute. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit. If solution is discolored or contains a precipitate, [illegible]

Lorazepam injection is compatible for diluting purposes with the following solutions: Sterile Water for Injection, USP; Sodium Chloride Injection, USP; 5% Dextrose Injection, USP; Sodium Chloride Injection, USP with benzyl alcohol; Bacteriostatic Water for Injection, USP with parabens; Bacteriostatic Water for Injection, USP with benzyl alcohol.

Directions for dilution for I.V. use: Aspirate the desired dose of lorazepam injection into the syringe, then slowly aspirate the equal volume of diluent. Pull back slightly on the plunger to provide additional mixing space. Immediately after contents have been completely evacuating the syringe repeatedly until a homogeneous mixture results. Do not shake vigorously since this will result in entrapment.

Supplied: Oral Tablets: Each white tablet contains: lorazepam 0.5 mg (round, engraved 0.5 on one side and "W" on the other); 1 mg (scored, oblong, engraved "48" on one side and "Wyeth" on the other); or 2 mg (scored, ovoid, engraved "47" on one side and "Wyeth" on the other). Also contains lactose. Energy: 0.80 kJ (0.19 kcal)/0.5 mg; 1.61 kJ (0.38 kcal)/1 mg; 2.01 kJ (0.48 kcal)/2 mg. Gluten- and tartrazine-free. Bottles of 100 and 1 000 (1 mg and 2 mg), bottles of 100 and 500 (0.5 mg).

Sublingual Tablets: Each round, flat tablet, engraved "W" on one side, contains: lorazepam 1 mg (white, engraved 1 on the other side); or 2 mg (blue, engraved 2 on the other side). Also contains lactose. Energy: 0.58 kJ (0.14 kcal)/ 1 mg; 0.80 kJ (0.19 kcal)/2 mg. Gluten- and tartrazine-free. Bottles of 100.

Injection: Each 1 mL ampul contains: lorazepam 4 mg; also contains benzyl alcohol 2%, polyethylene glycol 18% and propylene glycol 80%. Keep refrigerated and protect from light. Do not use if solution is discolored or contains a precipitate. Boxes of 10 ampuls. For hospital use only.

(Shown in Product Recognition Section)

Reviewed 1987

ATROMID-S® ■ *Ayerst*

Clofibrate *Antihyperlipidemic Agent*

Indications: As an adjunct to diet and other measures for the reduction of severely elevated plasma lipids in patients with primary hyperlipidemia or sequelae due to hyperlipidemia who do not respond adequately to diet, exercise, weight loss and other therapy.

Dysbetalipoproteinemia (Type III hyperlipidemia) [illegible] associated with xanthomas and a predisposition to premature atherosclerotic complications as well as cases of severe hypertriglyceridemia at risk of acute relapsing pancreatitis.

Clofibrate appears to have greater depressant effect on the very low density lipoproteins (VLDL) rich in triglycerides than the low density lipoproteins (LDL) rich in cholesterol. Therefore, patients with hypertriglyceridemic states involving elevation of both plasma triglycerides and cholesterol respond more favorably than those with pure hypercholesterolemia and normal triglyceride levels.

For the treatment of patients with symptomatic [illegible] tuberosum associated with severe hyperlipidemia.

Contraindications: Hypersensitivity to clofibrate, pregnant or lactating women, patients with clinically significant hepatic or renal dysfunction, in patients with liver dysfunction, clofibrate may cause the already elevated plasma concentrations of cholesterol.

Clofibrate is not indicated for use in children.

Warnings: The prescribing physician should be aware of the findings of long-term clinical studies for the primary prevention of [illegible] heart disease, conducted with clofibrate. Patients with hyperlipidemia were not randomized according to all prognostic factors affecting mortality, had no dietary control and were [illegible] on clofibrate regardless of response. A 25% higher mortality in the clofibrate group was reported. The clofibrate group had more deaths from ischemic heart disease (after trial only), stroke, cancer and [illegible] major diseases though most of these differences were not statistically significant. No relationship could be shown between the [illegible] mortality and cholesterol reduction, or the length of [illegible] clofibrate. Evidence is inconclusive regarding these findings.

Clofibrate, in long-term animal studies, has revealed [illegible] tumorigenic potential in some strains of rats but not in other species or other animal species. Long-term carcinogenic studies [illegible] in primates (marmosets).

In the absence of substantial evidence of beneficial effect on cardiovascular mortality, clofibrate is indicated only for [illegible] selected patients who are at high risk of complications from uncontrolled hyperlipidemia.

If clofibrate is chosen for treatment, the prescribing physician should discuss the proposed therapy and inform the patient of expected benefits and potential risks which may be associated with long-term administration.

Response to clofibrate is variable and the drug should be discontinued if lipid levels are not reduced.

Children: Clofibrate is not indicated for use in children.

Office national des transports du Canada
National Transportation Agency of Canada

Rapport

relatif à l'article 226
de la *Loi sur les chemins de fer*; et
relatif à la collision du train facultatif 5986
sud de Canadien Pacifique Limitée (Train 972-14)
avec l'arrière d'un mouvement de triage tiré
par la locomotive diesel CP 1565, au point
milliaire 6,34 de la subdivision Lanigan
à Régina (Saskatchewan)
le 15 janvier 1988

Reçu par
l'Office national des transports
le
4 mai 1988

Canada

RAPPORT D'ENQUÊTE
EN VERTU DE L'ARTICLE 226
DE LA LOI SUR LES CHEMINS DE FER

COLLISION DU TRAIN FACULTATIF 5986 SUD
DE CANADIEN PACIFIQUE LIMITÉE (TRAIN 972-14)
AVEC L'ARRIÈRE D'UN MOUVEMENT DE TRIAGE TIRÉ PAR
LA LOCOMOTIVE DIESEL CP 1565, AU POINT MILLIAIRE 6,34
DE LA SUBDIVISION LANIGAN DE CP RAIL
À RÉGINA (SASKATCHEWAN),
LE 15 JANVIER 1988

OFFICE NATIONAL DES TRANSPORTS DU CANADA

Direction des enquêtes
sur les chemins de fer et les productoducs

Direction générale de la sécurité ferroviaire

Référence n°: 39537.356

TABLE DES MATIÈRES

NOMINATION

		PAGE
I	RÉSUMÉ	1
II	L'ACCIDENT	2
III	BLESSURES	6
IV	DOMMAGES	7
V	CAUSE	8
VI	RÈGLES ET INSTRUCTIONS SPÉCIALES APPLICABLES	9
VIII	ANALYSE	15
IX	MESURES DISCIPLINAIRES	17
X	RECOMMANDATIONS	18

PIÈCES JOINTES

Annexe A Feuille de libération en cantonnement manuel n° 402
Annexe B Indicateur n° 62 - Subdivision Sutherland
Annexe C Feuille de libération en cantonnement manuel n° 404
Annexe D Indicateur n° 62 - Subdivision Lanigan
Annexe E Transcription des transmissions radio
Annexe F Plan du lieu de la collision
Annexe G Indicateur n° 62 - Instructions spéciales

Office national des transports du Canada

National Transportation Agency of Canada

RELATIF à l'article 226 de la Loi sur les chemins de fer, chapitre R-2, tel que modifié par l'article 316 de la Loi nationale de 1987 sur les transports.

- et -

RELATIF à une enquête que doit mener l'Office national des transports sur les causes et les circonstances de la collision du train facultatif 5986 Sud de Canadien Pacifique Limitée (train 972-14) avec l'arrière d'un mouvement de triage tiré par la locomotive diesel CP 1565, aux environs du point milliaire 6,1 de la subdivision Lanigan de CP Rail dans la province de Saskatchewan, survenu le 15 janvier 1988 à 6 h 45 h.n.c..

AVIS EST DONNÉ que l'Office national des transports désigne M. E.L. Boggs pour enquêter sur les causes, circonstances et détails relatifs à l'incident susmentionné, et sur toutes les questions ou aspects qu'il jugera susceptibles de causer ou de prévenir ce genre d'accident.

DATÉ à Hull (Québec), le 15 janvier 1988

(signer)

Membre

(signer)

Membre

Canada

I RÉSUMÉ

À 6 h 34 h.n.c., vendredi le 15 janvier 1988, le train facultatif 5986 Sud de CP Rail (train 972-14), composé des locomotives diesel CP 5986, 6007 et 5948, de 64 wagons chargés, de 13 wagons vides, d'un poids brut virtuel de 8 051 tonnes et d'une longueur de 4 795 pieds, manoeuvré par une équipe de trois hommes et circulant à la vitesse de 30 mi/h, est entré en collision avec l'arrière d'un mouvement de triage formé d'une seule locomotive diesel CP 1565 et de 34 wagons, circulant dans la même direction à une vitesse estimative de 4 mi/h. La collision a eu lieu au point milliaire 6,34 de la subdivision Lanigan de CP Rail, soit 1,26 mille en deçà du panneau indicateur de zone de triage situé au point milliaire 7,6.

Au moment de la collision, il faisait nuit, la température était de -7° C, le temps était clair et un vent du sud-est soufflait à 17 km/h.

II L'ACCIDENT

Le train facultatif 5986 Est (972-14), manoeuvré par une équipe composée d'un agent de tête de train, d'un mécanicien de locomotive et d'un chef de train, avait été appelé au triage Sutherland de Saskatoon (Saskatchewan) pour 23 h 45 h.n.c. le 14 janvier 1988. L'agent de tête de train et le chef de train se rencontrèrent au bureau de triage où ils étudièrent les manoeuvres à effectuer en route. À 23 h 45 h.n.c. environ, l'agent de tête de train quitta le bureau de triage et se rendit à l'atelier pour aider le mécanicien de locomotive qui était arrivé à l'atelier à l'heure voulue, soit 23 h 30 h.n.c., le 14 janvier 1988, et attendait à cet endroit avec les locomotives diesel CP 5986, 8021, 6007 et 5948. Les locomotives 5986 et 5948 étaient pourvues d'enregistreurs d'événements Q-Tron. Selon le contremaître de service et un agent de police du CP qui, à l'atelier, avaient observé le mécanicien de locomotive, ce dernier semblait dans un état normal. Selon le chef de triage qui au bureau de triage, avait observé le chef de train et l'agent de tête de train, ceux-ci semblaient dans un état normal. Les locomotives furent attelées au train à 0 h 17 h.n.c. le 15 janvier 1988. Entre-temps, un agent du bureau de triage avait conduit le chef de train du bureau de triage à l'arrière du train. Entre 0 h 24 et 0 h 42, on essaya deux fois les freins du train pour voir s'ils fonctionnaient et, à 0 h 42 h.n.c., le 15 janvier 1988, on annonça au chef de train que l'essai de frein était terminé et que tous les freins du train fonctionnaient. L'agent du bureau de triage et l'agent de train avaient tous deux observé le chef de train, lui avaient parlé et l'avaient trouvé dans un état normal.

À 0 h 52 h.n.c., le 15 janvier 1988, le train facultatif 5986 Est reçut l'avis de voie libre du régulateur par l'entremise des bulletins de CM 987, 921 et 929 (voir Annexe A).

À 0 h 55 h.n.c., le train facultatif 5986 Est quitta le triage Sutherland, la première locomotive se trouvant au point milliaire 109,04. Le train comportait quatre locomotives diesel, 8 wagons chargés, 14 wagons vides, il avait un poids brut virtuel de 1 294 tonnes et une longueur de 1 640 pieds.

À 1 h 00 h.n.c., le 15 janvier 1988, le train facultatif 5986 Est se trouvait à l'aiguillage extérieur de la voie principale, situé au point milliaire 108,1 de la subdivision Sutherland (voir Annexe B).

Entre le point de départ des locomotives (au point milliaire 109,04 de la subdivision Sutherland) et Lanigan (au point milliaire 37,7 de la subdivision Sutherland), se trouvaient huit zones de limitation permanente de vitesse (page 89, Annexe B). Dans la direction du mouvement, la vitesse était d'abord limitée à 50 mi/h entre le point milliaire 109,7 et le point milliaire 107,0, voire même à 40 mi/h du point milliaire 107,6 au point milliaire 107,3. Comme le montrent les enregistreurs d'événements installés sur les locomotives 5986 et 5948, au point milliaire 107,6, c'est-à-dire à 1,44 mille du point milliaire 109,04, le train facultatif 5986 Est roulait à plus de 48 mi/h et, au point milliaire 107,0, sa vitesse dépassait 57 mi/h. Voici les vitesses enregistrées par la suite:

Au point milliaire 99,0,	panneau indicateur ouest du triage Cheviot	-59 mi/h
Au point milliaire 85,0,	panneau indicateur ouest du triage Elstow	-61 mi/h
Au point milliaire 76,8		-56 mi/h
Au point milliaire 72,5		-57 mi/h
Au point milliaire 71,8,	panneau indicateur ouest du triage Arpiers	-58 mi/h
Au point milliaire 69,5		-55 mi/h
Au point milliaire 66,1		-56 mi/h
Au point milliaire 63,1		-49 mi/h
Au point milliaire 55,2		-57 mi/h
Au point milliaire 45,5,	panneau indicateur ouest du triage Guernsay	-62 mi/h
Au point milliaire 39,6,	panneau indicateur ouest du triage Lanigan	-55 mi/h
Au point milliaire 39,0		-42 mi/h.

Le train facultatif 5986 Est est arrivé à Lanigan à 2 h 10, soit 1 heure 15 minutes après avoir quitté Sutherland, selon le chef de train, ou 1 heure 20 minutes, selon les enregistreurs d'événements. Il fallut 1 heure 15 minutes pour garer les véhicules et ramasser des wagons à Lanigan. Le chef de train et l'agent de tête de train achevèrent ensemble les manoeuvres. Après avoir reçu l'autorisation du régulateur à 3 h 31 h.n.c., le 15 janvier 1988, le train facultatif 5986 Sud qui, à présent, comprenait seulement les trois locomotives CP 5986, 6007 et 5948, ainsi que 88 wagons chargés et 13 wagons vides, et avait un poids brut virtuel de 11 088 tonnes, quitta Lanigan à 3 h 30 h.n.c., selon les indications du chef de train, soit 3 h 35 à l'aiguillage extérieur. L'enregistreur d'événements, lui, indique 3 h 35 h.n.c. Les ordres de CM portaient les numéros 989, 921, 914 (voir Annexe C).

Le train facultatif 5986 Sud, passant le signal d'approche nord, se rendit à 35 mi/h à l'enclenchement situé au point milliaire 81,1 de la subdivision Lanigan et le franchit à la même vitesse (voir subdivision Lanigan, Annexe D, page 92).

Au panneau indicateur nord de la zone de triage Bulyea, situé au point milliaire 44,4, le train facultatif 5986 Sud roulait à 36 mi/h et, au point milliaire 42,6, il dépassait légèrement la vitesse de 31 mi/h. Au point milliaire 25, il roulait à 42 mi/h, mais il ralentit pour s'arrêter à Craven 10 minutes plus tard, soit 3,65 milles plus loin. Le train facultatif 5986 Sud laissa 24 wagons à Craven et repartit environ 6 minutes plus tard avec les locomotives CP 5986, 6007 et 5948, 64 wagons chargés, 13 wagons vides, le tout atteignant un poids brut virtuel de 8 051 tonnes et une longueur de 4 795 pieds. Le chef de train indiqua 5 h 55 h.n.c. à la sortie de Craven, le 15 janvier 1988. Selon les enregistreurs d'événements, le train quitta Craven 5 heures 1 minute après avoir quitté le triage Sutherland, soit à 5 h 56 h.n.c.. Après avoir quitté Craven, le train facultatif 5986 Sud atteignit la vitesse de 31 mi/h à proximité du point milliaire 20, ralentit à des vitesses variant entre 17 et 30 mi/h entre les points milliaires 20 et 11,75 puis, reprenant de la vitesse, atteignit 43 mi/h à proximité du point milliaire 8,7. Environ 1 minute 42 secondes plus tard, le train facultatif 5986 Sud passa à 39 mi/h devant le panneau indicateur nord du triage Regina, situé au point milliaire 7,6.

Entre-temps, l'équipe de la locomotive de triage 1565, qui travaillait près de l'usine IPSCO entre les points milliaires 5 et 6 de la subdivision Lanigan de CP Rail, avait attelé 35 wagons, s'était assurée de la

continuité de l'air d'une extrémité du train à l'autre en enlevant un véhicule en mauvais état, puis avait poussé les 34 wagons restants vers le nord, jusqu'à la voie principale, en passant par l'aiguillage D-63. L'extrémité nord des wagons se trouvait près du point milliaire 6,34. Ayant appris après 6 h 00 h.n.c. que le train facultatif 5986 Sud avait quitté Craven, le chef de triage appela la locomotive de triage pour demander où elle se trouvait et signaler que le train facultatif 5986 Sud arriverait dans environ une demi-heure. L'équipe répondit qu'elle se trouvait à l'usine IPSCO et qu'elle en partirait dans environ 20 minutes. À 6 h 32 min 47 s, le train facultatif 5986 Sud annonça qu'il était à l'usine IPSCO avec 77 wagons. Le chef de triage l'informa qu'une locomotive de triage se trouvait par là. À 6 h 33 min 43 s, le chef de train informa le régulateur que le train facultatif 5986 Sud avait franchi le panneau indicateur nord de la zone de triage Regina. Le régulateur accusa réception du message à 6 h 33 min 51 s (voir Annexe E, Communications radio).

Entre 6 h 33 min 51 s et 6 h 34 min 8 s, le train facultatif 5986 Sud qui roulait à 30 mi/h, heurta l'arrière de la locomotive de triage 1565 qui venait de se mettre en marche vers le Sud à environ 4 mi/h. L'agent de tête et le mécanicien du train facultatif 5986 Sud furent mortellement blessés dans la collision, tandis que l'aide de triage et le mécanicien de la locomotive de triage 1565 furent légèrement blessés, le premier lors du heurt de trois wagons tombereaux vides, le second lorsque tout le train facultatif 5986 Sud frappa les wagons chargés du mouvement de triage.

Le déraillement survint à 6 900 pieds au sud du panneau indicateur de zone de triage situé au point milliaire 7,6. La cabine et la coque extérieure, qui couvrait entre autres les moteurs de la locomotive 5986, furent déchirées et volèrent jusqu'au côté ouest de l'emprise. Deux wagons tombereaux vides, CNW 130514 et CNW 340205, placés à l'arrière du mouvement de triage, furent projetés sur le côté est de la voie, le premier à environ 75 pieds au sud du point de déraillement, le second à environ 150 pieds au sud de celui-ci, mais ils restèrent en position verticale et presque parallèles à la voie, à environ 20 pieds à l'extérieur de celle-ci. Le wagon vide BN 563245 qui, attelé au départ à l'arrière du mouvement de triage, se trouvait à environ 300 pieds au sud du point de déraillement, dévia jusqu'à former un angle de 45° avec la voie, l'avant du wagon se trouvant à l'extérieur de l'emprise. Le quatrième wagon à partir de l'arrière du mouvement de triage, CN 190570, chargé de rouleaux de fil d'acier, se coucha sur le côté en formant un angle d'environ 45° avec la voie à environ 350 pieds au sud du point de déraillement, mais resta à l'intérieur de l'emprise.

Le cinquième wagon à partir de l'arrière du mouvement de triage et le dernier à dérailler, CN 190515, lui aussi chargé de rouleaux de fil d'acier, était couché en dehors de la voie, mais presque parallèle à celle-ci, à environ 50 pieds en avant du wagon CN 190570.

Pour ce qui est du train facultatif Sud, du sud au nord, la locomotive de tête 5986 était couchée presque parallèlement au wagon CN 190570. La deuxième locomotive n° 6007 formait un angle d'environ 80°, l'arrière sur la voie, l'avant au bord de l'emprise, près du wagon CN 563245 du mouvement de triage. La troisième locomotive, n° 5948, formait un angle

droit avec la voie, l'extrémité de la cabine située près de l'emprise du côté est. Près du wagon CP 5948 se trouvait le wagon CPWX 600792 chargé de grain, l'arrière sur la voie, formant un angle d'environ 45° vers la limite de l'emprise ouest. Après ce wagon, on trouvait du sud au nord: CPWX 608584 - grain; CPWX 602156 - grain; CPWX 608079 - grain et NCHX 46035 - engrais, tous à la verticale, mais déraillés parallèlement à la voie (voir Annexe F ci-jointe).

Après l'accident, des agents de la Gendarmerie royale du Canada trouvèrent deux boîtes de bière Rainier dans le sac du mécanicien du train facultatif 5986 Sud. Les représentants de CP Rail reçurent la consigne de rechercher des boîtes de bière vides comme pièces à conviction sur l'emprise, à l'extrémité sud de la subdivision Lanigan, mais ils n'en trouvèrent pas.

La Gendarmerie royale du Canada trouva aussi dans le sac du mécanicien quatre petites pilules blanches portant la mention "Wyeth", quatre gros cachets APO 400-80, un contenant renfermant huit capsules identifiées comme du Tylenol, plusieurs morceaux de contenants à pilules cassés, quatre comprimés blancs de type inconnu et trois petits comprimés blancs de type inconnu.

Juste après l'accident, le chef du train facultatif 5986 Sud de CP refusa de se soumettre à des tests de dépistage de drogue et d'alcool.

Le mécanicien de la locomotive de triage 1565 de CP ne subit de tests de dépistage de drogue et d'alcool que le mercredi suivant, soit cinq jours après la collision. Les résultats de ces tests se révélèrent négatifs.

III BLESSURES

Agent de tête	- Train facultatif 5986 Sud - Mortellement blessé dans la collision
Mécanicien de locomotive	- Train facultatif 5986 Sud - Mortellement blessé dans la collision
Agent de triage	- Locomotive de triage 1565 - Légèrement blessé dans la collision
Mécanicien	- Locomotive de triage 1565 - Légèrement blessé dans la collision

IV DOMMAGES

Locomotives	838 846,00 $
Wagons	70 518,00 $
Signaux	3 000,00 $
Déblaiement	11 665,00 $
Autres frais	5 568,00 $
TOTAL	**929 597,00 $**

V CAUSE

Le train facultatif 5986 Sud de CP n'a pas respecté la consigne de vitesse de marche à vue dans les zones de triage, énoncée dans la règle 93 du Règlement unifié d'exploitation, ni la limitation permanente de vitesse de 25 mi/h en vigueur du point milliaire 7,6 de la subdivision Lanigan de CP jusqu'au point milliaire 0,0, à Regina.

VI RÈGLES ET INSTRUCTIONS SPÉCIALES APPLICABLES

Règlement unifié d'exploitation

Règles générales

B

"Les employés doivent bien connaître et observer les règles et les instructions spéciales. S'ils ont des doutes quant à leur interprétation, ils doivent se renseigner auprès des autorités compétentes."

D

"Les employés de tout service se rattachant à la circulation des trains sont soumis aux règles et aux instructions spéciales."

E

"Les employés doivent, dans toute la mesure du possible, contribuer à l'application des règles et des instructions spéciales; ils doivent aviser promptement les autorités compétentes de toute infraction."

G

"Il est interdit aux employés de consommer des boissons alcooliques et de faire usage de stupéfiants avant et pendant le travail, et même d'en avoir en leur possession au travail."

Définitions

MÉCANICIEN

"Employé qui a la responsabilité d'une locomotive et qui est chargé de la manoeuvre."

VITESSE DE MARCHE À VUE

"Vitesse permettant l'arrêt en deçà de la moitié de la portée de la vue."

INDICATEUR

"Document autorisant les trains réguliers à circuler, toujours conformément au Règlement. On y trouve les horaires classés dans l'ordre requis et les instructions spéciales se rapportant à la circulation des trains et des locomotives."

TRIAGE

"Ensemble de voies utilisées pour la formation des trains, le garage des véhicules et autres usages, sur lesquelles se font des mouvements non autorisés par l'indicateur ou par les ordres de marche, à condition qu'il soit tenu compte des signaux, des règles et des instructions spéciales."

ZONE DE TRIAGE

"Partie d'une voie principale ou de plusieurs voies principales comprise entre des panneaux indicateurs de zone de triage."

LOCOMOTIVE DE TRIAGE

"Locomotive affectée au service d'un triage."

RÈGLE 90 A

"Sauf instruction spéciale, les chefs de train et les mécaniciens de trains de marchandises, de trains mixtes et de trains de travaux en mouvement entre des gares posteront des agents de train à l'avant et à l'arrière des trains pour qu'ils voient si le mouvement des trains se fait avec sécurité et si c'est faisable, pour qu'ils échangent des signaux quand les trains s'approchent des gares et les dépassent. Un membre de l'équipe de train doit être posté à portée du robinet d'urgence quand le train approche des jonctions, des traversées de voies à niveau, des ponts mobiles, des endroits où les trains peuvent être obligés de s'arrêter, des endroits où les trains doivent se croiser ou se dépasser, et suffisamment tôt avant que le train ne s'engage sur une forte pente ou n'atteigne un endroit où une défectuosité des freins pourrait s'avérer dangereuse."

RÈGLE 93

"À l'intérieur des zones de triage, la voie principale peut être utilisée pourvu qu'elle soit libérée dès le moment où les trains de première et de deuxième classes sont censés quitter la gare la plus rapprochée pour laquelle une heure est indiquée. La protection contre les trains de troisième et de quatrième classes, les trains facultatifs et les locomotives n'est pas obligatoire.

Les trains de troisième et de quatrième classes, les trains facultatifs et les locomotives doivent circuler à vitesse de marche à vue à l'intérieur des zones de triage, à moins qu'on ne se soit assuré que la voie principale est libre.

Sauf instruction spéciale, des feux jaunes doivent être placés sur les panneaux indicateurs de la zone de triage, du coucher au lever du soleil.

Sauf en Cantonnement Automatique, des panneaux indicateurs d'approche sont placés à un mille des panneaux indicateurs de la zone de triage.

La nuit, ou en cas de brouillard ou de tempête, une lanterne allumée doit être placée aux deux bouts des véhicules non surveillés et des locomotives non en service qui obstruent la voie principale à l'intérieur des zones de triage.

(DEUX VOIES OU PLUS) Tous les trains et toutes les locomotives allant en sens contraire au sens de la circulation à l'intérieur des zones de triage doivent circuler à vitesse de marche à vue."

RÈGLE 98(1)

"À moins d'être protégés par des signaux de canton ou d'enclenchement, les trains et les locomotives doivent circuler à vitesse de marche à vue quand ils approchent de la fin de deux voies ou plus, des jonctions, des traversées de voies à niveau et des ponts mobiles. "

RÈGLE 103(1) ET (2)

"Quand des véhicules sont poussés par une locomotive, sauf en service de manoeuvre ou de formation de trains dans des triages, et même dans ce cas lorsque les circonstances l'exigent, un membre de l'équipe doit être posté sur le véhicule de tête là où les signaux nécessaires au mouvement peuvent être donnés convenablement.

Quand des véhicules non précédés par une locomotive roulent le long d'un chemin public ou franchissent un passage à niveau public qui n'est pas suffisamment protégé par des barrières ou autrement, un membre de l'équipe doit être posté sur le véhicule de tête de façon à prévenir les personnes qui occupent la voie, qui la franchissent ou qui se préparent à la traverser."

RÈGLE 106

"Les trains circuleront sous la direction du chef de train. En l'absence d'un chef de train, c'est le mécanicien qui remplira les fonctions de chef de train.

Les chefs de train, les mécaniciens, et les pilotes (lorsqu'il y en a) sont responsables de la sécurité de leur train et de l'application du Règlement; dans des circonstances non prévues par le Règlement, ils doivent prendre toutes les mesures voulues pour assurer la protection. Les autres employés ne sont pas pour autant dégagés des obligations que leur impose le Règlement."

RÈGLE 108

"En cas d'équivoque ou d'incertitude, la solution qui assure la plus grande sécurité doit être adoptée."

RÈGLE 321

"Dans certaines parties du réseau désignées dans l'indicateur ou dans des instructions spéciales, l'utilisation de la voie principale est réglée par cantonnement manuel."

RÈGLE 322

"Sauf indication contraire, la circulation des trains est dirigée par le régulateur, qui donne au besoin ses instructions aux opérateurs ou aux chefs de train."

RÈGLE 323

"Des instructions spéciales sont données au besoin pour réglementer ce mode d'exploitation. Toutes les règles d'exploitation, de Cantonnement Automatique et d'enclenchement demeurent en vigueur, sous réserve des instructions spéciales précitées et des règles 321 et 322."

CS 44 - INSTRUCTIONS GÉNÉRALES D'EXPLOITATION

Article 6.1 - Section 2, page 14

"Là où on peut communiquer par radio, les équipes munies d'une radio en tête et en queue des trains communiqueront entre elles dans les circonstances et aux endroits suivants:

a) Avant de franchir les panneaux indicateurs de gare à un mille, en indiquant le nom de la gare.

b) À une distance de un à trois milles:

- *des zones de triage s'il s'agit des trains régis par la règle 93;*

- *des points où la protection d'une voie impraticable ou exigeant la marche au ralenti a été assurée par ordre de marche;*

- *des points où le train doit attendre, croiser ou dépasser un autre train, céder la voie à un train supérieur, emprunter la voie d'évitement, s'arrêter avant le point de dégagement d'une liaison ou franchir celle-ci, passer d'un territoire à deux voies ou plus à un territoire en voie simple, ou d'un territoire à plus de deux voies à un territoire à deux voies.*

c) Aux points où sont effectuées les inspections de trains suivantes;

- *examens en marche aux endroits habituels;*

- *surveillance au passage par les équipes d'autres trains;*

- *surveillance au passage par les employés travaillant à proximité;*

- *surveillance au défilé ou inspections à l'arrêt par des membres de l'équipe et (ou) par des employés du Service de la mécanique.*

La communication entre la tête et la queue du train doit préciser si un ou les deux côtés du train ont été inspectés et si l'examen de la voie à l'arrière a révélé des signes de pièces traînantes."

Article 15.1 (e) - Section 2, page 24

"À l'approche de chaque voie d'évitement, le mécanicien doit s'assurer que la communication par radio est établie avec l'occupant du fourgon de queue et qu'une réponse en est obtenue; à défaut de cette réponse, il doit arrêter le train avant le franchissement de la seconde voie d'évitement et, avant de poursuivre, établir la communication par radio, contact personnel ou signal manuel."

INSTRUCTIONS DE L'INDICATEUR

INDICATEUR Nº 62 ENTRÉ EN VIGUEUR LE DIMANCHE 26 AVRIL 1987

Indicateur - Instruction spéciale "Z"

"PROTECTION DES VÉHICULES D'ENTRETIEN À L'INTÉRIEUR DES ZONES DE TRIAGE

Dans les subdivisions visées par la présente instruction spéciale, l'article 11.0 de l'imprimé 3915, Règlement de protection des véhicules et des travaux d'entretien, s'applique. Dans de telles subdivisions le "N.B." de la règle 93 ne s'applique pas. La règle 291 "Signal de voie libre" ne peut pas être acceptée comme une indication qu'on s'est "assuré que la voie est libre"; les trains de troisième et de quatrième classes, les trains facultatifs et les locomotives doivent alors circuler à vitesse de marche à vue, prêts à s'arrêter en deçà de la moitié de la portée de la vue des trains, locomotives, véhicules ou véhicules d'entretien de la voie QUELLE QUE SOIT L'INDICATION DU SIGNAL."

Indicateur - Instruction spéciale pour le cantonnement manuel (CM) 323.1 (B).

"Les trains et les locomotives peuvent utiliser la voie principale à l'intérieur d'une zone de triage de la manière prescrite par la règle 93 et en se conformant à l'instruction 323.5".

Indicateur - Instruction spéciale pour le cantonnement manuel (CM) 323.5

"(a) Les mouvements autorisés par une feuille de libération CM peuvent utiliser la voie principale à l'intérieur des zones de triage à l'heure prévue pour le passage des trains de première et de deuxième classes.

"(b) Lorsqu'il est nécessaire de vérifier si tous les trains de première ou de deuxième classes sont arrivés ou partis, ces renseignements seront obtenus du régulateur, écrits et répétés pour s'assurer qu'ils ont été compris. Le régulateur fera une inscription appropriée dans le livre fourni à cette fin."

VII ANALYSE

Après avoir quitté Sutherland, le train facultatif 5986 Est est arrivé à 48 mi/h dans la zone de limitation de vitesse située au point milliaire 107,6 et, au point milliaire 107,3, il roulait à 54 mi/h, soit respectivement à 8 et 14 mi/h de plus que la limite permise. Il a traversé les zones de triage Cheviot et Elstow à une vitesse de 59 à 63 mi/h. Il a traversé la zone de triage Arpiers à une vitesse de 55 à 62 mi/h et celle de Guernsay à une vitesse de 59 à 62 mi/h. Au moment où il approchait du panneau indicateur ouest de la zone de triage Lanigan, et pénétrait dans cette zone de triage, le train facultatif 5986 Est roulait à 55 mi/h. À Cheviot, Elstow, Arpiers et Guernsay, il n'a pas freiné. Au panneau indicateur ouest de la zone de triage Lanigan, il roulait à 55 mi/h, puis un serrage de frein de 5 livres par pouce carré a été fait à 0,17 mille, c'est-à-dire à 900 pieds, en deçà du panneau indicateur ouest de la zone de triage. Il a respecté à 2 ou 3 mi/h près les limitations de vitesse imposées dans les courbes de la subdivision Sutherland.

Après avoir quitté Lanigan, le train facultatif 5986 Sud a franchi le signal d'approche de l'enclenchement et l'enclenchement proprement dit à 35 mi/h, soit à 5 mi/h de plus que la limite de vitesse stipulée dans l'indicateur au signal d'approche. À proximité du point milliaire 60,82 ainsi qu'au point milliaire 47,23, il dépassait de 4 mi/h la vitesse maximale de 40 mi/h. Le train facultatif 5986 Sud a franchi le panneau indicateur nord de la zone de triage Bulyea à 37 mi/h, sans qu'il y ait eu serrage de frein. Au point milliaire 42,6, dans la courbe, il a franchi à 31 mi/h la zone de limitation de vitesse de 30 mi/h. Au point milliaire 25,0, il a franchi à 42 mi/h l'endroit où la vitesse dans les courbes est limitée à 25 mi/h, avant de ralentir progressivement à 24 mi/h sur une distance de 2,34 milles, soit jusqu'au point milliaire 22,66. La première courbe orientée vers le sud se trouve au point milliaire 24,8 et trois autres courbes la suivent avant le point milliaire 22,66. Après avoir quitté Craven, le train facultatif 5986 Sud a respecté les limitations de vitesse jusqu'au panneau indicateur nord de la zone de triage, panneau que la locomotive a passé à 39 mi/h, soit à 14 mi/h de plus que la vitesse prescrite dans l'indicateur.

Le dimanche 17 janvier 1988, à peu près à la même heure matinale, au même endroit et dans les mêmes conditions, CP Rail a effectué un essai observé par un représentant de la Direction générale de la sécurité ferroviaire de l'Office national des transports. On a placé un wagon tombereau sur la voie principale à l'endroit de la collision et le contremaître des locomotives de CP Rail a conduit un train. Le mécanicien de la locomotive n'a commencé à voir le wagon tombereau qu'en arrivant à 579 pieds au nord de celui-ci.

Le chef de train a témoigné que la collision s'est produite à peu près au moment où il a appelé le régulateur pour lui signaler l'heure, juste après avoir dépassé le panneau indicateur nord de la zone de triage; en effet, le train avait émis un message de détresse à environ 6 h 34 h.n.c.. Son rapport au régulateur a eu lieu à 6 h 33 min 41 s. Dans l'intervalle d'une minute 40 secondes qui sépare le moment où la locomotive a dépassé le panneau indicateur nord de la zone de triage et le moment où l'enregistreur d'événements, peut-être arraché de ses fils, a cessé d'enregistrer, on a la

preuve d'un début de serrage de frein une minute 14 secondes après le franchissement du panneau indicateur nord de la zone de triage, soit 20 secondes avant l'appel d'urgence lancé depuis la locomotive. Six secondes plus tard, l'enregistreur a cessé de fonctionner.

Le voyage du triage Sutherland à Lanigan et en sens inverse, de Lanigan au lieu de la collision, a été marqué par des infractions aux limitations de vitesse et par des vitesses imprudentes dans les zones de triage. Le chef de train affirme avoir effectué environ 2 000 voyages à titre d'agent de train et de chef de train dans la subdivision Sutherland, ainsi que 100 voyages à titre d'agent de train et 200 voyages à titre de chef de train dans la subdivision Lanigan, mais il n'a pris aucune mesure lorsque les limitations de vitesse ont été enfreintes, et particulièrement en dernier lieu, lorsque le train facultatif 5986 Sud a pénétré dans la zone de triage Regina à la vitesse de 39 mi/h avant d'entrer en collision à 30 mi/h avec le mouvement de triage.

Le rapport disciplinaire du mécanicien prouve que celui-ci a reçu 20 points de démérite en novembre 1987 pour avoir dépassé la vitesse autorisée.

Si le mécanicien avait respecté la vitesse de marche à vue en vigueur dans les zones de triage, la collision n'aurait pas eu lieu. Si le chef de train ou l'agent de tête de train avaient pris les mesures voulues pour arrêter le train à cause de la vitesse de ce dernier à l'approche de la zone de triage Regina, la collision n'aurait peut-être pas eu lieu ou aurait été, à coup sûr, moins forte.

Même si cela n'a aucun rapport avec la collision causée par le train facultatif 5986 Sud, il convient de noter que, peu avant la collision, la locomotive de triage 1565 a poussé 34 wagons vers le nord jusqu'à la voie principale sans qu'un seul membre de l'équipe de triage se trouve dans le wagon de tête, et il y avait aussi un passage à niveau public à franchir.

VIII MESURES DISCIPLINAIRES

CP Rail a renvoyé le chef du train facultatif 5986 Sud, dû à sa contravention de la consigne de vitesse de marche à vue et à sa contravention de la règle 93 du Règlement unifié d'exploitation au point milliaire 6,3 de la subdivision Lanigan.

RECOMMANDATIONS

M'appuyant sur ce qui précède, je recommande que l'Office national des transports (ONT):

(1) Ordonne à CP Rail de surveiller l'exploitation de ses trains dans diverses zones de triage, y compris Regina, dans les divisions de Saskatoon et de Moose Jaw, pendant une période de six mois commençant le 1er juin 1988; cette surveillance comprendra l'observation de la vitesse de marche à vue, le respect des procédures de radiotransmission conformément aux Instructions générales d'exploitation du transporteur (Imprimé CS 44 de CP Rail), et l'observation des autres règles d'exploitation. CP Rail devra procéder à au moins 30 observations par mois et envoyer à la fin de chaque mois un rapport des résultats au directeur des Enquêtes sur les chemins de fer et les productoducs au siège de l'ONT, ainsi qu'à la Direction générale de la sécurité ferroviaire de l'ONT à Winnipeg (Manitoba).

(2) Ordonne à CP Rail de vérifier au hasard le contenu des sacs apportés dans les trains par les membres des équipes, puisque, après la collision, on a découvert une boisson alcoolique dans le sac du mécanicien du train facultatif 5986 Sud, mais les échantillons examinés pour le rapport d'autopsie n'ont pas révélé la présence d'alcool. Ces vérifications au hasard devront avoir lieu pendant un an dans tous les gares terminus des divisions de Moose Jaw et de Saskatoon de CP Rail, et on devra envoyer des rapports trimestriels sur les résultats au directeur des Enquêtes sur les chemins de fer et les productoducs au siège de l'ONT, ainsi qu'à la Direction générale de la sécurité ferroviaire de l'ONT à Winnipeg (Manitoba).

(3) Ordonne à CP Rail de modifier les instructions spéciales inscrites dans son indicateur, de manière à interdire formellement la consommation de médicaments par les équipes d'exploitation pendant les heures de service, à moins que le médecin local de CP Rail n'en ait ratifié l'utilisation. Le rapport d'autopsie a révélé des traces d'un médicament nommé Lorazepam dans le foie du mécanicien défunt. Ce médicament lui avait été prescrit pendant ses vacances, peu avant la collision. Ce médicament peut causer de la

somnolence ou un manque de vigilance, et les normes pharmaceutiques précisent qu'on ne doit pas l'utiliser lorsqu'on fait fonctionner des machines (voir Annexe G ci-jointe).

(4) Informe le ministre des Transports que, pour assurer la sécurité des employés des chemins de fer et du public, il s'impose d'élaborer des textes de loi ou de prendre les mesures voulues pour obliger une équipe d'exploitation impliquée dans un accident de chemin de fer entrainant des blessures graves ou la mort à se soumettre immédiatement à des tests permettant de déceler la consommation de drogues ou d'alcool pendant les heures de travail.

Le Chef, Sécurité et services
Direction générale de la sécurité ferroviaire
Office national des transports du Canada
Winnipeg

(signé)

E.L. Boggs

RAIL MANUAL BLOCK SYSTEM CLEARANCE

1. Clearance Number 402 Date JAN 15 1988
To EXTRA 5986 EAST

2. Clearance Number ____ is cancelled.

3. Proceed _____
From EAST Y L SIGN SUTHERLAND
To WEST Y L SIGN LANIGAN
N/A

Work _____
Between _____
And _____
Until MOS Clearance is Cancelled

4. After _____
Arrive(s) at _____

5. Do Not Leave _____ Before ____

6. A) Protect Against _____
Between _____
And _____
B) Protect Against _____
Between _____
And _____
C) Protect Against _____
Between _____
And _____

7. Joint Authority Granted with Foreman _____
Between _____
And _____
_____Must Not Enter, Nor Move Within
The Limits of the Track Occupancy Permit until Instructions
Have Been Received from Foreman _____

8. Bulletins 987 921 929

9. Call Train Dispatcher _____

10. Completed at 0052 SDK
Acknowledged by TRAINMAN _____ AT 0052
Acknowledged by _____ AT ____

11. Cancellation
This M.B.S. Clearance Number____ Is cancelled at _____
Acknowledged by _____ At ____
Acknowledged by _____ At ____

(CP C & O use: 3002 3719 19880114 805)

Manual Block System Bulletin

CP Ra

Bulletin No. 987 Date JAN 3 1988

To:

SUTHERLAND SUB TRAINS

SIDINGS FLORAL

CHEVIOT

ELSTOW

COLONSAY

AND WOLVERINE

BLOCKED WITH CARS

Made Complete at 0310 (Time) Train Dispatcher's initials

Acknowledged by Opr (Occupation/Name) 0310 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's initials)

Manual Block System Bulletin

CP Rail

Bulletin No. 921 Date JAN 13 1988

To: SUTHERLAND SUB TRAINS

LANIGAN SUB TRAINS

NO THREE 3 SWITCH

ON WEST END OF EAST YARD

AT LANIGAN

OUT OF SERVICE

SWITCH SPIKED

Mode Complete at 0125 (Time) Train Dispatcher's Initials

Acknowledged by OPER (Occupation/name) 0125 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's Initials)

Manual Block System Bulletin

CP Rail

Bulletin No. 929 Date JANUARY 14-1988

To: SUTHERLAND SUB TRAINS

DO NOT EXCEED
FORTY FIVE 45 MILES PER HOUR
WHILE HANDLING TRAILER OR CONTAINER FLAT CARS
LESS THAN SIXTY 60 FEET IN LENGTH EMPTY OR LOADED
WITH LESS THAN TWENTY 20 TONS CONTENTS
AS IDENTIFIED ON ENHANCED TRAIN CONSIST FORM IDP 125
THIS RESTRICTION ALSO APPLIES WHEN THESE CARS ARE LIFTED ENROUTE

Mode Complete at 1756 (Time) Train Dispatcher's Initials

Acknowledged by B.K.R. (Occupation/Name) 1756 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's Initials)

ELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

MANUAL BLOCK SYSTEM TRAIN SHEET

Page: 1

DISPATCHER: PEC SUTHERLAND SUBDIVISION JAN 15 1988

TRAIN DESIGNATION: EXTRA 5986 EAST
SHORT NAME: X 5986 E

ORIGIN	DESTINATION	TIME	DATE
SUTHERLAND	LANIGAN	2345	JAN 14 1988

CREW	CLEAR OF		AT
CONDUCTOR:	LANIGAN	M35.00	0200
ENGINEMAN:			
TRAINMAN:			
TRAINMAN:			
TRAINMAN:			

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

TIME TABLE No. 82 – APRIL 26, 1987

CP Rail

WESTWARD TRAINS	END TO END CHANNEL	DISPATCHER CALL IN CHANNEL	MAINTENANCE OF WAY CHANNEL	MILES FROM WYNYARD	YARD LIMITS	SUTHERLAND SUBDIVISION — STATIONS	OFFICE SIGNALS	SIDING CAPACITY IN FEET	EASTWARD TRAINS
				0.0	2.5	WYNYARD ..... KWYZ	W	Yard	
				7.8		7.8 KANDAHAR			
				14.9		7.3 DAFOE		1850	
				18.2		3.3 KING		8200	
				23.3		5.1 JANSEN			
				29.1		5.8 ESK			
				37.7	35.8	8.6 V LANIGAN ..... V WYZ		5460	
					39.6	Jct. Melfort, Lanigan, Prince Albert Subs.			
				44.4	42.7	6.7 GUERNSEY ..... YZ		1860	
		CP 3			45.5	4.7 WOLVERINE		3570	
	CP 1	3 PULSES	CP 13	49.1		6.8 PLUNKETT		4620	
				55.9		4.9 SCLANDERS		2640	
				60.8		4.3 VISCOUNT		1850	
				65.1		5.3 ARPIERS ..... YZ			
				70.4	68.6	5.2 COLONSAY ..... YZ		2850	
				75.6	71.8	Jct. Colonsay Sub.			
					74.3	7.8 ELSTOW ..... YZ		1990	
					77.3	6.6 BLUCHER			
				83.4	81.6	7.1 CHEVIOT ..... YZ		1910	
					85.0	5.0 FLORAL ..... Z		1880	
				90.0		7.6 SUTHERLAND ..... CKWYZ	UR	Yard	
				97.1	95.9	0.5			
					99.0	2.4			
				102.1	100.0				
				103.4		0.9 SASKATOON ..... Z		Yard	
				105.5					
				109.7	110.2				
				110.2					
	CP 4			112.6	112.6				
				113.5					

CTC

MHS

TRACK-SIDE 1 PT/TN ONLY

Rule 41 applies

Rules 321 to 323 apply between Wynyard and Sutherland

Special Instruction Z applies

0 RADIO

0.1 Instructions for the use of Trackside Radio refer to Page 132.

(Continued on page 89)

SUTHERLAND SUBDIVISION FOOTNOTES—Continued

1 HOT BOX DETECTOR SYSTEM

1.1 Instructions for operation of hot box detector system apply. Refer Form CS 44, Section 18.

1.2

Direction	Mileage	Type	Inspection Point	Set-Off Point
Westward	26.2	Talker	Immediate	Esk
Westward	61.9	Talker	Immediate	Viscount
Westward	**92.6	Talker	Immediate	Chaviot
Eastward	26.2	Talker	Immediate	Jansen
Eastward	61.9	Talker	Immediate	Sclanders
Eastward	92.6	Talker	Immediate	Blucher

2 RESTRICTIONS

2.1 In addition to observing any more restrictive speed restrictions a train carrying one or more full carloads, container loads or trailer loads of any SPECIAL dangerous commodity the following speed restrictions apply—
EASTWARD must not exceed 35 miles per hour between Mileage 113.5 and Mileage 107.3.
WESTWARD must not exceed 35 miles per hour between Mileage 107.3 until train yarded Sutherland.
WESTWARD trains departing Sutherland must not exceed 35 miles per hour to Mileage 113.5 (See Wilkie Sub. footnote for speed restriction to Mileage 4.4 Wilkie Sub.)

2.2 Movements—
Floral, 5 miles per hour on Canada Cement Spur.
Mileage 59, 5 miles per hour on pit tracks.

2.3 In Lanigan Yard Limits, trains and engines must move at restricted speed and the "NOTE" in Rule 93 does not apply.

3 SPEEDS

	MILES PER HOUR
3.1 MAXIMUM SPEED	60
When handling over 7,500 tons	40

4 PERMANENT SLOW ORDERS

4.1 Mileage—Location	MILES PER HOUR
0.0 to 39.0	50
55.2 (on curve)	55
63.1 (on curve)	50
66.1 (on curve)	55
69.5 (on curve)	55
72.5 (on curve)	55
76.8 (on curve)	55
107.3 to 107.6 Eastward (8th Street)	*40
107.0 to 109.7	50
109.7 to 113.5	30
109.8 (Central Ave.) within 600 feet	*10

*Until crossing fully occupied.

6 RAILWAY CROSSINGS AT GRADE

6.1 Mileage 112.6
CN Rail and Yard Lead Switch—Interlocking controlled by CP Rail Dispatcher. Eastward approach signal located to left of track. Special Instruction G applies eastward—4 minutes.
Movements authorized to pass STOP signal must observe the requirements of Rule 672 in addition to Rule 104B and then not exceed 5 miles per hour until crossing is occupied.

8 CENTRALIZED TRAFFIC CONTROL

8.1 CTC between Signal 1101 Sutherland and Signal 1126 Saskatoon.

9 MANUAL BLOCK SYSTEM

9.1 Manual Block System (MBS) Special Instructions apply between Wynyard and Sutherland.

10 AUTOMATIC BLOCK SIGNAL SYSTEM

10.1 Eastward:
Between Signal 386 and block end sign Mileage 36.7.

10.2 Westward:
Between Signal 355 and block end sign Mileage 38.6.

12 AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE

12.1 Mileage 15.1
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.2 Mileage 37.3
Eastward movements within 1950 feet of crossing in excess of 90 seconds must not exceed 10 miles per hour until crossing fully occupied. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

(Continued on page 90)

SUTHERLAND SUBDIVISION FOOTNOTES—Continued

AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE—Continued

12.3 **Mileage 44.7**
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.4 **Mileage 56.1**
Manual control for switching or standing clear on main track.

12.5 **Mileage 70.0**
Manual control for switching or standing clear. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.6 **Mileage 75.8**
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.7 **Mileage 83.6**
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.8 **Mileage 109.8**
Central Ave. MAIN TRACK. Manual control for switching or standing clear. Approaching movements must not exceed 10 miles per hour within 600 feet until crossing fully occupied.

LEAD TRACK. Manual control for switching or standing clear. Eastward approaching movements must not exceed 10 miles per hour within 370 feet and westward movements must not exceed 5 miles per hour within 180 feet until crossing fully occupied.

12.9 **Mileage 110.0**
115th St. Westward movements must not exceed 10 miles per hour through crossover at Mileage 109.9 until crossing fully occupied. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.10 **Mileage 112.6**
Movements on other than main track must stop at stop signs, actuate crossing signals by manual control and must not obstruct crossing until signals have been operating for at least one minute. Operation of crossing signals interconnected with roadway traffic signals.

Eastward Movements from Yard Lead
Indicator light mounted in northwest angle of diamond crossing. All movements must stop adjacent to the indicator light and must not occupy crossing until indicator light commences flashing. Indicator light will be steady-burning when circuit is occupied and will commence flashing after ONE minute. If indicator light does not operate, manual control must be operated in accordance with instructions in the box.

To comply with Rule 103, Paragraph 6, it will be necessary to clear interlocking signal and make reverse movement on signal indication.

12.11 **Mileage 113.4**
Idylwyld Drive. Approaching movements must not exceed 15 miles per hour within 1200 feet. Manual control for switching or standing clear on main track. Approaching movements on lead track must stop at stop signs and actuate signals by manual control. When actuating signals manually on main track or lead track, movements must not occupy crossing until signals have operated for 40 seconds. Operation of crossing signals interconnected with roadway traffic signals.

14 GENERAL FOOTNOTES

14.1 **Public Crossing at Grade**
24th Street—On K59 Industrial Lead Saskatoon, Rule 103, paragraph 5 applies.

14.2 **Rule 99—Outside ABS Territory**
When a train stops under circumstances in which it may be overtaken by another train, a flagman must immediately go back at least 2000 yards to ensure full protection.

14.3 Switch where Lanigan Sub. joins siding Lanigan is normal when set for Lanigan Sub.

14.4 Switch where Colonsay Sub. joins siding Colonsay is normal when set for Colonsay Sub.

14.5 Crossover switches immediately west of Central Ave. Sutherland, are normal when lined for crossover.

14.6 Whistle signal 14(l) is prohibited approaching all public crossings at grade between Mileage 107.26 (8th Street East) and Mileage 113.4 (Idylwyld Drive).

15 SPURS

15.1 **Alwinsal Spur**
Southward—Guernsey to Alwinsal .....1.4 miles
MILES PER HOUR
MAXIMUM SPEED.....25

15.2 **Allan Spur**
Southward—Elstow to Allan Mines .....4.3 miles
MILES PER HOUR
MAXIMUM SPEED.....25

15.3 **Noranda Spur**
Southward—Arpiers to Norco.....1.4 miles
MILES PER HOUR
MAXIMUM SPEED.....25
RESTRICTIONS
Diesel Units—
DRF30 prohibited on concentrator track.

15.4 **Potasco Spur**
Northward—Cheviot to Potasco.....3.9 miles
MILES PER HOUR
MAXIMUM SPEED.....25
Movements—
15 miles per hour on curves.

CP RAIL MANUAL BLOCK SYSTEM CLEARANCE

1. Clearance Number 404 Date JAN 15 1988
   To EXTRA 5986 SOUTH

2. Clearance Number ___ is cancelled.

3. Proceed _____
   From SOUTH Y L SIGN LANIGAN
   To NORTH Y L SIGN REGINA
   N/A

   Work _____
   Between _____
   And _____
   Until MBS Clearance is Cancelled

4. After _____
   Arrive(s) at _____

5. Do Not Leave _____ Before ___

6. A) Protect Against _____
   Between _____
   And _____
   B) Protect Against _____
   Between _____
   And _____
   C) Protect Against _____
   Between _____
   And _____

7. Joint Authority Granted with Foreman _____
   Between _____
   And _____
   _____Must Not Enter, Nor Move Within
   The Limits of the Track Occupancy Permit until Instructions
   Have Been Received from Foreman _____

8. Bulletins 989 914 921

9. Call Train Dispatcher _____

10. Completed at 0331 SDK
    Acknowledged by TRAINMAN _____ AT 0331
    Acknowledged by _____ AT ___

11. Cancellation
    This M.B.S. Clearance Number___ Is cancelled at _____
    Acknowledged by _____ At ___
    Acknowledged by _____ At ___

(For C & C use: 3002 3717 19880114 869)

Bulletin No. 989 Date JAN 4 1988

To:

LANIGAN SUB TRAINS

SIDING CRAVEN

BLOCKED WITH CARS

Made Complete at 0556 (Time) Train Dispatcher's initials

Acknowledged by OPR (Occupation/Name) 0556 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's initials)

C.

Bulletin No. 914 Date JAN 7 1988

To:

LANIGAN SUB TRAINS

BE ON LOOKOUT FOR LOOSE RAILS
ON BOTH SIDES OF CURVE
MILEAGE FORTY TWO POINT SIX 42.6
LANIGAN SUB

Made Complete at 0056 (Time) Train Dispatcher's initials

Acknowledged by OPR. (Occupation/Name) 0056 (Time)

This M.B.S. Bulletin No.

Cancelled at (Time) By (Train Dispatcher's initials)

Manual Block System Bulletin

APPENDIX "C" / ANNEXE "C"

CP Rail

Bulletin No. 921 **Date** JAN 13 1988

To: SUTHERLAND SUB TRAINS

LANIGAN SUB TRAINS

NO THREE 3 SWITCH
ON WEST END OF EAST YARD
AT LANIGAN
OUT OF SERVICE
SWITCH SPIKED

Made Complete at 0125 (Time) **Train Dispatcher's initials** _____

Acknowledged by OPR (Occupation/Name) _____ 0125 (Time)

This M.B.S. Bulletin No. _____

Cancelled at _____ (Time) **By** _____ (Train Dispatcher's Initials)

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

MANUAL BLOCK SYSTEM TRAIN SHEET Page: 1

DISPATCHER: PEC LANIGAN SUBDIVISION JAN 15 1988

TRAIN DESIGNATION: EXTRA 5986 SOUTH
SHORT NAME: X 5986 S

ORIGIN	DESTINATION	TIME	DATE
LANIGAN	REGINA	2345	JAN 14 1988

CREW
CONDUCTOR:
ENGINEMAN:
TRAINMAN:
TRAINMAN:
TRAINMAN:

CLEAR OF
REGINA M7.60 OT 0633

DELETED DELETED DELETED DELETED DELETED DELETED DELETED DELETED

NORTHWARD TRAINS	END TO END CHANNEL	DISPATCHER CALL IN CHANNEL	MAINTENANCE OF WAY CHANNEL	MILES FROM REGINA	YARD LIMITS	LANIGAN SUBDIVISION — STATIONS	SIDING CAPACITY IN FEET	SOUTHWARD TRAINS
	CP 4			0.0	7.8	REGINA CKWYZ	Yard	
				12.2		12.2 TREGARVA	2150	
				21.3		9.1 CRAVEN	8820	
				30.3		9.0 SILTON	1810	
				43.3	41.0 – 44.4	13.0 BULYEA YZ	1730	
						Jct. Bulyea Sub.		
		CP 3		50.7		7.4 STRASBOURG	2570	
	CP 1	3 PULSES	CP 13	57.0		6.3 DUVAL		
				62.5		5.5 CYMRIC		
				67.4		4.9 GOVAN	1850	
				81.5		14.1 NOKOMIS	7400	
				90.6		9.1 LOCKWOOD		
				97.5		6.9 DRAKE	3380	
				104.6	103.0	7.1 V LANIGAN WYZ	Yard	

MBS

TRACK-SIDE 1 PT/TN ONLY

Rule 41 applies

Rules 321 to 323 apply

Special Instruction Z applies

0 RADIO

0.1 Instructions for the use of Trackside Radio refer to Page 132.

1 HOT BOX DETECTOR SYSTEM

1.1 Instructions for operation of hot box detector system apply. Refer Form CS 44, Section 18.

1.2

Direction	Mileage	Type	Inspection Point	Set-Off Point
Northward	12.7	Display Board	Immediate	Craven
Southward	**12.7	Display Board	Immediate	First available track

2 RESTRICTIONS

2.1 In addition to observing any more restrictive speed restrictions a train carrying one or more full carloads, container loads or trailer loads of any SPECIAL dangerous commodity must not exceed 35 miles per hour between Mileage 0.0 and Mileage 10.0.

2.2 Auxiliary cranes—
20 miles per hour between Mileage 13.0 and Mileage 18.0.

3 SPEEDS

	MILES PER HOUR
3.1 MAXIMUM SPEED	40

4 PERMANENT SLOW ORDERS

4.1 Mileage—Location	MILES PER HOUR
0.0 to 7.6	25
13.0 to 25.0 (on curves)	25
42.6 (on curve)	30

(Continued on page 92)

LANIGAN SUBDIVISION FOOTNOTES—Continued

6 RAILWAY CROSSINGS AT GRADE

6.1 Mileage 0.8
CN Rail—Automatic Interlocking. Special Instruction G applies southward—3 minutes.

Push-buttons at interlocking signals to provide for return movement.

6.2 Mileage 1.6
CN Rail—Automatic Interlocking. Special Instruction G applies northward—3 minutes.

6.3 Mileage 81.1
CN Rail Interlocking controlled by CN Rail Dispatcher. Movement must not exceed 30 miles per hour at the governing approach signal. If communication fails or dispatcher authorizes movement to pass a STOP signal, the requirements of Pule 672 must be observed.

9 MANUAL BLOCK SYSTEM

9.1 Manual Block System (MBS) Special Instructions apply between Regina and Lanigan.

12 AUTOMATIC PROTECTED PUBLIC CROSSINGS AT GRADE

12.1 Mileage 0.5
After using switches Mileage 0.8, approaching movements must not exceed 10 miles per hour until crossing fully occupied.

12.2 Mileage 0.7
After using switches Mileage 0.8, approaching movements must not exceed 10 miles per hour until crossing fully occupied. Approaching movements passing a STOP signal at Mileage 0.8 under Rule 672 must not obstruct crossing until the crossing signals have been operating for at least 20 seconds.

12.3 Mileage 1.8
Manual control for switching or standing clear. After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

12.4 Mileage 2.0
After using switches within 1500 feet of crossing, approaching movements must not exceed 15 miles per hour until crossing fully occupied.

12.5 Mileage 4.6
Manual control for switching or standing clear on main track.

12.6 Mileage 20.9
Southward movements within 1600 feet in excess of 2 minutes must not exceed 5 miles per hour until crossing fully occupied.

12.7 Mileage 50.2
After using adjacent switch, approaching movements must not exceed 5 miles per hour until crossing fully occupied.

14 GENERAL FOOTNOTES

14.1 Switch where Lanigan Sub. joins F Yard lead Regina is normal when set for Lanigan Sub.

14.2 Switch where Lanigan Sub. joins the siding at Lanigan is normal when set for Lanigan Sub.

January 16, 1988

TRANSCRIPT OF RADIO TRANSMISSION INVOLVING TRAIN 972-14 (DE 5986) ON THE SUTHERLAND AND LANIGAN SUBDIVISIONS AND THE WINNIPEG TRAIN DISPATCHER, JANUARY 15, 1988

ALL CONVERSATIONS WERE TAKEN FROM THE TAPING DEVICE IN THE CSC BUILDING, SUTHERLAND. CHANNELS MONITORED WERE CP 15 WHICH IS EAST POINT TO TRAIN AND CP 19 WHICH IS CHANNEL 1 END TO END.

TIME

0050:56 - DISPATCHER---------- Dispatcher Winnipeg - Over.

0050:58 - HEADEND----------Dispatcher Winnipeg 5986 Sutherland looking to go to Lanigan - Over.

0051:04 - DISPATCHER----------Okay fellows - are both ends okay to copy?

0051:08 - HEADEND----------Headend's ready.

0051:10 - TAILEND----------Ya - Tailend's ready.

0051:13 - DISPATCHER ----------One - MBS clearance number four nought two dated January the 15th,1988 to the Extra five nine eight six East.
Three - Proceed from east yard limit sign Sutherland to west yard limit sign Lanigan, Third line is N/A.

Item eight - Bulletins nine eight seven nine twenty one nine twenty nine, over.

0051:58 - TAILEND ----------Clearance number four nought two date January 15, 1988 to Extra fifty nine eighty six East.
Three - Proceed from east yard limit sign Sutherland to west yard limit sign Lanigan - N/A

Eight - bulletins - nine eighty seven, nine twenty one, nine twenty nine.

0052:13 - HEADEND----------One - clearance number four nought two January 15,1988 to Extra fifty nine eighty six East.

Three - proceed from east yard limit sign Sutherland to west yard limit sign Lanigan, third line N/A

Eight - bulletins - nine eighty seven, nine twenty one, nine twenty nine, over

0052:28 - DISPATCHER ---------Ten - show that made complete at nought nought fifty two, nought nought five two - Train Dispatcher
Over.

0052:45 - HEADEND----------OK, made it complete at nought nought five two ., acknowledged by trainman at nought nought fifty two.

0052:53 - DISPATCHER----------OK, thanks very much.

0052:58 - TAILEND----------Tailend Extra 5986 East to the Headend Pull whenever you are ready.

0053:08 - HEADEND----------Okay - I am going to step outside for a second and then we'll go.

0054:23 - TAILEND----------UH - Tailend is moving 5986.

0209:27 - DISPATCHER----------Dispatcher Winnipeg - Over

0209:40 - DISPATCHER----------Dispatcher Winnipeg - Over

0209:56 - DISPATCHER----------Is someone calling the Sutherland Sub Dispatcher - Over.

0210:01 - HEADEND----------Yes Winnipeg - 5986 - we've arrived yard limits Lanigan 0208.

0210:10 - DISPATCHER----------0208 - clear of the West yard limit sign Lanigan for the 5986 East-is that correct?

0210:17 - HEADEND----------That's correct.

0210:20 - DISPATCHER----------Okay fellows. How much work do you have at Lanigan this morning?

0210:25 - HEADEND----------What was that again?

0210:27 - DISPATCHER----------I said how much work do you have at Lanigan this morning?

0210:31 - HEADEND----------Oh! We've got to set off a unit and back into the siding and make one straight lift, brake test on about 80 cars.

0210:40 - DISPATCHER----------Okay.

0311:12 - DISPATCHER----------Extra 5986 at Lanigan, Dispatcher Winnipeg, over.

0311:18 -HEADEND----------5986 - Go ahead Dispatcher Winnipeg.

0311:21 -DISPATCHER----------Uh, fellows, would you be okay to take Clearance, or are you still switching at Lanigan?

0311:26 -HEADEND----------Uh, we're a bit busy right now.

0311:29 -DISPATCHER----------Okay, give me a call when you're all set then please.

0311:32 -HEADEND----------Okay, what's doing for us Dispatcher Winnipeg, or do you know?

0311:34 -DISPATCHER----------Uh, I believe it looks like a deadhead home for you if you get down before eight.

0311:40 - HEADEND----------A deadhead home for us, okay.

0311:45 -HEADEND----------Okay, back up three cars to joint 5986.

0330:15 - DISPATCHER----------Dispatcher Winnipeg - over.

0330:18 - HEADEND----------Dispatcher Winnipeg - fifty nine eighty six South looking for a clearance.

0330:22 - DISPATCHER----------Both ends OK?

0330:25 - HEADEND----------Yes, go ahead.

0330:28 - DISPATCHER----------Item one MBS clearance number four nought four, four zero four, dated January the 15th, nineteen eighty eight to the Extra five nine eight six South.

Three - proceed from South yard limit sign Lanigan to North yard limit sign Regina - third line is N/A.

Item eight - bulletins nine eighty nine nine fourteen, nine twenty one - over.

0331:09 - TAILEND ----------Tailend, clearance number four nought four date January fifteen nineteen eighty eight to extra fifty nine eighty six south.

Three - proceed from south yard limit sign Lanigan to north yard limit sign Regina - N/A.

Eight - bulletins - nine eight nine, nine fourteen, nine twenty one.

0331:25 - HEADEND----------Headend - one - clearance number four nought four, January fifteenth, nineteen eighty eight to extra fifty nine eighty six South.

Three - proceed from South yard limit sign Lanigan to North yard limit sign Regina, third line N/A.

Eight - bulletins - nine eighty nine, nine fourteen, nine twenty one over.

0331:42 - DISPATCHER---------Ten - Completed at nought three thirty one, nought three three one train dispatcher - over.

0331:49 - HEADEND----------Ten - Completed at nought three thirty one acknowledged by Trainman nought three thirty one.

0331:55 - DISPATCHER---------OK - What kind of cars do you have coming out of Lanigan to Regina this morning please?

0332:06 - TAILEND----------Altogether I got about, uh, hundred and one right about now, but we should have about, uh, seventy some cars into Regina.

0332:16 - DISPATCHER---------OK - thank you.

0332:21 - TAILEND----------Uh, Three Thirty (Dispatcher cutout tower in the middle of this transmission.)

NO OTHER RADIO TRANSMISSIONS RECEIVED FROM LANIGAN SUBDIVISION ON SUTHERLAND RECORDING DEVICE.

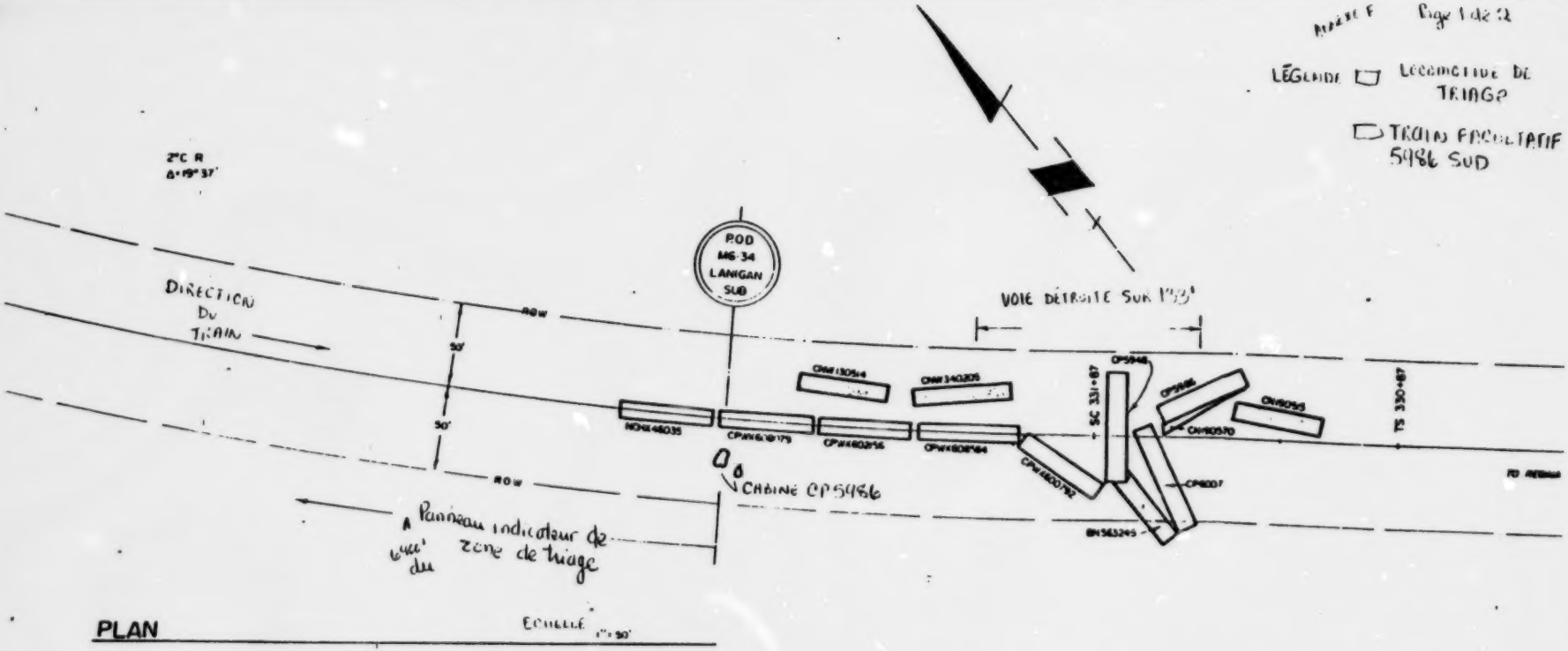
TRANSCRIPT OF RADIO TRANSMISSION
INVOLVING EXTRA 5986 SOUTH, LANIGAN SUB.
JANUARY 15, 1988

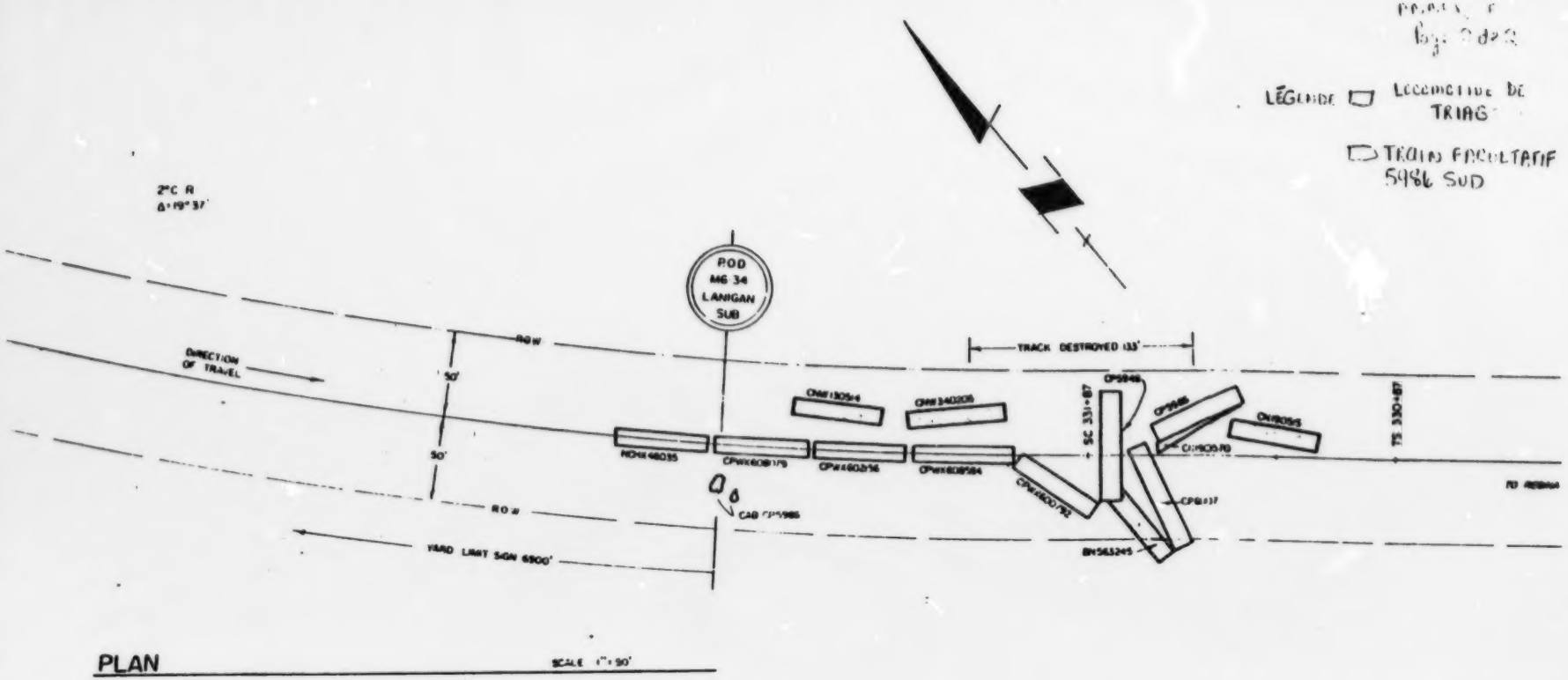
NOTE: This transcript has been corrected to reflect that the time denoted on the Moose Jaw Taping Device was fourteen (14) seconds fast as compared to the Mechanized Time Signal. In addition, conversations which were taped by the taping device in Winnipeg have been chronologically inserted into this transcript. These times have been corrected to reflect that the time denoted on the Winnipeg Taping Device was three (3) seconds slow as compared to the Mechanized Time Signal.

Channel and Tape Location	Corrected Time	
Moose Jaw 4	06:29:39	Headend-----Go ahead 5986, Channel 4. or Tailend Headend------Channel 4. or Tailend
Moose Jaw 4	06:29:55	Headend------5986 South calling Regina Yardmaster.
Moose Jaw 4	06:30:16	Headend-----5986 South calling Regina Yardmaster.
Moose Jaw 4	06:31:55	Headend-----5986 South calling Regina Yardmaster.
Moose Jaw 4	06:32:43	Yardmaster--Regina Yard, go ahead 5986.
Moose Jaw 4	06:32:47	Headend-----Yeah, we're at Ipsco , that's about 77 cars.

Moose Jaw	4	06:32:51	Yardmaster--Yard Engine out there somewhere, let me talk to them and get back to you.
Winnipeg	1	06:33:41	Dispatcher--Dispatcher Winnipeg, over.
Winnipeg	1	06:33:43	Tailend-----Ah, Dispatcher, Tailend Extra 5986 South was clear of North Yard Limit Sign Regina at 0633.
Winnipeg	1	06:33:51	Dispatcher--Extra 5986 South clear of the north Yard Limit Sign Regina at 0633. Clear at 0633, ah.
Winnipeg	1	06:34:08	Tailend-----Ah, that's correct, over.
Winnipeg	1	06:34:09	Dispatcher--Ah, Okay fellows, thank you.
Moose Jaw	4	06:34:20	Tailend-----Calling the Headend of 5986.
Moose Jaw	4	06:34:26	Yardmaster--Yard to the 5986, come in please.
Moose Jaw	4	06:34:38	Tailend-----Calling the Headend of the 5986.
Moose Jaw	4	06:34:46	Yardmaster--Hello, (called Engineman by name)
Moose Jaw	4	06:34:54	Tailend-----Calling the Headend of the 5986, over.
Winnipeg	1	06:34:58	Tailend-----Hello (called Engineman by name)

Moose Jaw 4	06:35:08	Yardmaster--I was just talking to him ; I don't know where they got to.
Moose Jaw 4	06:35:13	Tailend-----Well, the train went into emergency and I haven't been able to raise them on the radio so I might have to walk up here.
Moose Jaw 4	06:35:23	Yardmaster--OK.
Moose Jaw 4	06:35:26	Tailend-----Calling the Headend 5986, over.


LÉGENDE
LOCOMOTIVE DE TRIAGE
TRAIN FACULTATIF 5986 SUD
2°C R
Δ=19°37'
POD MS-34 LANGAN SUB
DIRECTION DU TRAIN
ROW
50'
50'
ROW
VOIE DÉTOURNÉE SUR 1°33'
CABINE CP 5986
Panneau indicateur de l'arrivée de la zone de triage
SC 331+67
TS 330+67
CP 5948
CP 5986
CP 5987
PLAN
ÉCHELLE 1"=30'


LÉGENDE
Locomotive de TRIAG
Train facultatif 5986 SUD
2°C R
Δ=19°37'
POD
MG 34
LANIGAN
SUB
DIRECTION OF TRAVEL
ROW
50'
50'
ROW
YARD LIMIT SIGN 6900'
TRACK DESTROYED 133'
SC 331+87
TS 330+87
CAB
PLAN
SCALE 1" = 50'

SPECIAL INSTRUCTIONS—Continued

H—RIDING ON TOP OF CARS AND CARS EQUIPPED WITH HAND BRAKE PLATFORM

Employees are prohibited from riding on the tops of cars or cabooses not equipped with running boards.

Employees are prohibited from riding on the tops of cars or cabooses equipped with running boards except when necessary in switching or making up trains in yards or industrial spurs.

Where restricted overhead clearances exist, employees are prohibited from riding on high hand brake platform.

I—The use of mood altering agents by employees subject to duty or their possession or use while on duty, is prohibited except as prescribed by a Doctor. In addition each employee taking medication as prescribed by a Doctor, or otherwise, is responsible for taking only such amount as will ensure that he or she does not become incapacitated for work and if by prescription, no more than the amount prescribed at the intervals prescribed.

J—Restrictions for movement of Freight Cars having a gross weight up to 263,000 pounds are specified in Subdivision footnotes and Equipment Authorization Chart. Authority for movement of Freight Cars having a gross weight in excess of 263,000 pounds must be secured from the Superintendent.

K—Main track switches may be equipped with reflectorized lenses or targets of the prescribed colours in lieu of lights, and yard limit signs may be reflectorized in lieu of lights.

L—Retaining valves must be used on 50% of the cars on freight trains on descending grades of 2% or over if the tonnage is in excess of full haulage capacity for the ascending grade for the diesel units on which the dynamic brake is in effective operating condition, unless the train is controlled with a pressure maintaining brake valve. Otherwise Rule 34, of appendix to Form 582A(1986), applies.

Rule 34 of appendix in Form 582A(1986), does not apply to Rail Diesel Cars.

M.1—WHEN PROVIDING PROTECTION UNDER RULES 40, 41, 42 AND TIME TABLE SPECIAL INSTRUCTION "Y", THE FOLLOWING WILL APPLY—

(a) Maintenance of Way Employees must not permit a train to proceed over the defective point or through the working area until it is known that the track is passable and all machines are clear, except that—

(b) If the main track is clear up to a specified point, the train may be permitted to proceed to that point where it must stop and wait further instructions.

(c) Speed restrictions and any instructions given a train under (b) must be authorized by the Foreman in charge, must be in writing, and not delivered until the train has been brought to a stop.

The requirements of (c) do not apply when protection is provided under Form Y Example 2, 3 or 4 train order and radios are functioning.

M.2—PROTECTION OF TRACK UNITS AND MAINTENANCE WORK AT CONTROLLED INTERLOCKED RAILWAY CROSSINGS AT GRADE AND DRAWBRIDGES

In conjunction with U.C.O.R. Rules 623 and 625, a separate Track Occupancy Permit may be used to protect Track Units and Maintenance Work at CONTROLLED interlocked railway crossings at grade and drawbridges.

Form 3815, Regulations for the Protection of Track Units and Maintenance Work, is modified accordingly.

(Continued on page 112)

...may result in internal bleeding. Surgery or trauma ...exposed raw surfaces.

...polycythaemia vera, vasculitis, severe diabetes, severe ...disorders.

...cessation of anticoagulant therapy is not generally ...lower dose gradually over 3 to 4 weeks.

...congestive heart failure may become more sensitive to ...thereby requiring more frequent laboratory monitoring, and ...dose of warfarin. Concurrent use of anticoagulants with ...or uricosurics is not recommended and may be ...

...Periodic determination of prothrombin time or other ...coagulation test is essential.

...various factors, alone or in combination, including travel, ...in diet, environment, physical state and medication may ...response of the patient to anticoagulants. It is generally ...prudence to monitor the patient's response with additional ...prothrombin time determinations in the period immediately after ...discharge from the hospital, and whenever other medications are ...initiated, discontinued or taken haphazardly. The following factors ...are listed for your reference; however, other factors may also affect ...the prothrombin response.

The following factors, alone or in combination, may be responsible for increased prothrombin time responses:

Endogenous Factors: carcinoma, collagen disease, congestive heart failure, diarrhea, elevated temperature, hepatic disorders, infectious hepatitis, jaundice, poor nutritional state, vitamin K deficiency, vomiting.

Exogenous Factors: alcohol†, allopurinol, aminosalicylic acid, anabolic steroids, antibiotics, bromelains, chloral hydrate†, chlorpropamide, chymotrypsin, cimetidine, cinchophen, clofibrate, warfarin overdosage, dextran, dextrothyroxine, diazoxide, dietary deficiencies, diuretics, disulfiram, drugs affecting blood elements, ethacrynic acid, glucagon, hepatotoxic drugs, indomethacin, inhalation anesthetics, mefenamic acid, methyldopa, methylphenidate, metronidazole, monoamine oxidase inhibitors, nalidixic acid, oxolinic acid, oxyphenbutazone, phenylbutazone, phenyramidol, prolonged hot weather, prolonged narcotics, quinidine, quinine, salicylates, sulfinpyrazone, sulfonamides, thyroid drugs, tolbutamide, triclofos sodium, trimethoprim/sulfamethoxazole, unreliable prothrombin time determinations.

Increased and decreased prothrombin time responses have been reported.

The following factors, alone or in combination, may be responsible for decreased prothrombin time responses:

Endogenous Factors: diabetes mellitus, edema, hereditary resistance to coumarin therapy, hyperlipemia, hypothyroidism.

Exogenous Factors: adrenocorticosteroids, alcohol†, antacids, antihistamines, barbiturates, chloral hydrate†, chlordiazepoxide, cholestyramine, warfarin underdosage, diet high in vitamin K (vegetables, fish, fish oil, onions), diuretics, ethchlorvynol, glutethimide, griseofulvin, haloperidol, meprobamate, oral contraceptives, paraldehyde, pyrimidone, primidone, rifampin, unreliable prothrombin time determinations, ascorbic acid.

Increased and decreased prothrombin time responses have been reported.

A patient may be exposed to a combination of the above factors, some of which may increase and some decrease the patient's sensitivity to warfarin (crystalline warfarin sodium). Because the net effect on prothrombin time response may be unpredictable under these circumstances, more frequent laboratory monitoring is advisable.

Drugs not yet shown to interact or not to interact with coumarins are best regarded with suspicion, and when their administration is started or stopped, the prothrombin time should be determined more often than usual.

Coumarins also affect the action of other drugs. Hypoglycemic agents (chlorpropamide, tolbutamide and glyburide) and anticonvulsants (phenytoin and phenobarbital) may accumulate in the body as a result of interference with either their metabolism or excretion.

Adverse Effects: Minor or major hemorrhage from any tissue or organ, which is an extension of the physiologic activity of prothrombinopenia. Bleeding during anticoagulant therapy does not always correlate with prothrombin activity (see Overdose: Treatment).

Bleeding which occurs when the prothrombin time is within the therapeutic range warrants diagnostic investigation since it may unmask a previously unsuspected lesion, e.g. tumor, ulcer, etc.

Adverse effects other than hemorrhage are infrequent and consist of alopecia, urticaria, dermatitis, fever, nausea, diarrhea, hypersensitivity reactions and an extremely rare reaction consisting of hemorrhagic infarction and necrosis of the skin.

Overdose: Symptoms: Prolonged elevation of the prothrombin time and/or hemorrhage.

Treatment: Excessive prothrombinopenia, with or without bleeding, is readily controlled by discontinuing warfarin, and if necessary, the oral or parenteral administration of vitamin K_1. The appearance of microscopic hematuria, melena, petechiae or oozing from nicks made with shaving are early manifestations of hypoprothrombinemia beyond a safe and satisfactory level.

In excessive prothrombinopenia with mild or no bleeding, omission of one or more doses of warfarin may suffice; and if necessary, small doses of vitamin K_1 orally, 2.5 mg, will usually correct the problem.

If minor bleeding persists, or progresses to frank bleeding, vitamin K_1 in doses of 10 to 25 mg may be given parenterally. (Read vitamin K preparations package inserts carefully prior to use.)

Fresh whole blood transfusions should be considered in cases of severe bleeding or prothrombinopenic states unresponsive to vitamin K_1.

Resumption of warfarin administration reverses the effect of vitamin K_1, and a therapeutic hypoprothrombinemia level is readily obtained.

Dosage: The aim of anticoagulant therapy is to impede the coagulation or clotting mechanism to such an extent that thrombosis will not occur, but at the same time avoiding such extensive impairment as might produce spontaneous bleeding.

The administration and dosage of warfarin must be individualized for each patient according to the particular patient's sensitivity to the drug as indicated by the prothrombin time. The prothrombin time reflects the depression of vitamin K dependent factors, namely Factors VII, IX, X and II, the factors affected by coumarin anticoagulants. There are several modifications of the Quick one-stage prothrombin time and the physician should become familiar with the specific method used in his laboratory.

Administration of warfarin should be gauged according to prothrombin time determinations by a suitable method. The blood prothrombin time should usually be determined daily after the administration of the initial dose until prothrombin time results stabilize in the therapeutic range. Intervals between subsequent prothrombin time determinations should be based upon the physician's judgment of the patient's reliability and response to warfarin in order to maintain the individual within the therapeutic range. Satisfactory levels for maintenance of therapeutic prothrombinopenia are 1.5 to 2.5 times the normal prothrombin time (e.g. 21 to 35 seconds, with a control of 14 seconds).

Induction: In most cases anticoagulation therapy will be commenced by I.V. heparin for rapid response. One dose of 15 to 25 mg of warfarin should be administered at the commencement of treatment to the average adult or half that dose to the elderly or debilitated patient. On following days the dose and interval should be gauged by the patient's prothrombin response. I.V. heparin is generally discontinued by the third day.

Maintenance: The usual maintenance dose is 2 to 10 mg per day.

The duration of therapy in each patient should be individualized. In general, anticoagulant therapy should be continued until the danger of thrombosis and embolism has passed.

The management of patients who undergo dental and surgical procedures requires close liaison between attending physicians, surgeons and dentists. Interruption of anticoagulant therapy may precipitate thromboembolism, and conversely, if anticoagulants are maintained at full doses, some patients may hemorrhage excessively. If it is elected to administer anticoagulants prior to, during or immediately following dental or surgical procedures, the dosage of warfarin should be adjusted to maintain the prothrombin time at approximately 1.5 to 2 times the control level. The operative site should be sufficiently limited to permit the effective use of local procedures for hemostasis including absorbable hemostatic agents, sutures, and pressure dressings if necessary. Under these conditions dental and surgical procedures may be performed without undue risk of hemorrhage.

Supplied: Each scored (one side), biconvex, uncoated light blue tablet contains: 5 mg of warfarin potassium. Sodium and sugar content: nil. Tartrazine-free. Also contains corn starch, lactose 168 mg and potassium < 1 mmol (0.56 mg). Bottles of 100.

Store in light resistant containers. Expiration period: 3 years from date of manufacture.

(Shown in Product Recognition Section)

Reviewed 1985

ATIVAN® ◘ *Wyeth*

Lorazepam — ***Anxiolytic—Sedative***

Pharmacology: Lorazepam is a benzodiazepine with CNS depressant, anxiolytic and sedative properties. Peak serum concentrations of free lorazepam after oral administration are reached in 1 to 6 hours. Peak concentrations are reached in 60 to 90 minutes after i.m. administration and in 60 minutes after sublingual administration. Lorazepam is 85% bound to plasma proteins. Lorazepam is rapidly conjugated to an inactive glucuronide. Very small amounts of other metabolites have also been isolated in man. The serum half-life of lorazepam is approximately 12 to 15 hours while the half-life of the conjugate is 16 to 20 hours. Ninety-five percent of the drug was excreted within 120 hours, 88% in the urine and 6.6% in the stool.

Anterograde amnesia, decreased or lack of recall of events during period of drug action, has been reported after administration of lorazepam and appears to be dose-related.

Indications: The short-term relief of manifestations of excessive anxiety in patients with anxiety neuroses. Adjunct for the relief of excessive anxiety that might be present prior to surgical procedures.

Anxiety and tension associated with the stresses of everyday life usually do not require treatment with anxiolytic drugs.

Injectable lorazepam is useful as an initial anticonvulsant medication for the control of status epilepticus.

Contraindications: Myasthenia gravis, acute narrow angle glaucoma, known hypersensitivity to benzodiazepines. Lorazepam injectable is also contraindicated in patients with known hypersensitivity to polyethylene glycol, propylene glycol or benzyl alcohol.

Lorazepam should not be injected intraarterially and care should be taken to prevent its extravasation into tissue adjacent to an artery because of the danger of producing arteriospasm resulting in gangrene which may require amputation.

Warnings: Lorazepam is not recommended for use in depressive neuroses or in psychotic reactions. Because of the lack of sufficient clinical experience, lorazepam is not recommended for use in patients less than 18 years of age. Since lorazepam has a CNS depressant effect, patients should be advised against the simultaneous use of other CNS depressant drugs. Patients should also be cautioned not to take alcohol during the administration of lorazepam because of the potentiation of effects that may occur.

Occupational Hazards: Excessive sedation has been observed with lorazepam at standard therapeutic doses. Therefore, patients should be warned against engaging in hazardous activities requiring mental alertness and motor coordination, such as operating dangerous machinery or driving motor vehicles.

Prior to I.v. use, lorazepam injection should be diluted with an equal amount of compatible diluent (see Dosage). I.V. injection should be made slowly and with repeated aspiration. Care should be taken to determine that any injection will not be intraarterial and that perivascular extravasation will not take place. Partial airway obstruction may occur in heavily sedated patients. I.V. lorazepam, when given alone in greater than the recommended dose, or at the recommended dose and accompanied by other drugs used during the administration of anesthesia, may produce heavy sedation; therefore, equipment necessary to maintain a patent airway and to support respiration/ventilation should be available.

As with any premedicant, extreme care must be used in administering lorazepam injection to elderly or very ill patients and to those with limited pulmonary reserve, because of the possibility that apnea and/or cardiac arrest may occur. Because of the lack of sufficient clinical experience lorazepam injection is not recommended for use in patients less than 18 years of age.

Clinical trials have shown that patients over the age of 50 years may have a more profound and prolonged sedation with I.V. lorazepam. Ordinarily an initial dose of 2 mg may be adequate, unless a greater degree of lack of recall is desired.

There is no evidence to support the use of lorazepam injection in coma, shock or acute alcohol intoxication at this time. When lorazepam injection is used in patients with mild to moderate hepatic or renal disease, the lowest effective dose should be considered since drug effect may be prolonged.

As is true of other similar CNS acting drugs, patients receiving injectable lorazepam should not operate machinery or engage in hazardous occupations or drive a motor vehicle for a period of 24 to 48 hours. Impairment of performance may persist for greater intervals because of extremes of age, concomitant use of other drugs, stress of surgery or the general condition of the patient.

The addition of scopolamine to injectable lorazepam is not recommended, since their combined effect may result in increased incidence of sedation, hallucination and irrational behaviour.

Care should be exercised when administering lorazepam to patients with status epilepticus, especially when the patient has received other CNS depressants or is severely ill. The possibility that respiratory arrest may occur or that the patient may have partial airway obstruction should be considered. Proper resuscitation equipment should be available.

Pregnancy: The safety of the use of lorazepam in pregnancy has not been established. Therefore, it is not recommended for use during pregnancy or lactation. Several studies have suggested an increased risk of congenital malformations associated with the use of the benzodiazepines, chlordiazepoxide and diazepam, and meprobamate, during the first trimester of pregnancy. Since lorazepam is also a benzodiazepine derivative, its administration is rarely justified in women of childbearing potential. If the drug is prescribed to a woman of childbearing potential, she should be warned to contact her physician regarding discontinuation of the drug if she intends to become or suspects that she is pregnant.

In women, blood levels obtained from umbilical cord blood indicate placental transfer of lorazepam and lorazepam glucuronide. Lorazepam injection should not be used during pregnancy. There are insufficient data regarding obstetrical safety of parenteral lorazepam, including use in cesarean section. Such use, therefore, is not recommended.

Precautions: Elderly and debilitated patients, or those with organic brain syndrome, have been found to be prone to CNS depression after even low doses of benzodiazepines. Therefore, medication should be initiated in these patients with very low initial doses, and increments

should be made gradually, depending on the patient's response, in order to avoid oversedation or neurological impairment. Extreme care must be used in administering lorazepam injection to elderly patients, very ill patients, and to patients with limited pulmonary reserve, because of the possibility that underventilation and/or hypoventilation or cardiac arrest may occur. Resuscitative equipment for ventilatory support should be readily available.

Lorazepam should not be administered to individuals prone to drug abuse.

Observe caution in patients who are considered to have potential for psychological dependence. Lorazepam should be withdrawn gradually if it has been used in high dosage.

As with other benzodiazepines, lorazepam injection has a low potential for abuse and may lead to limited dependence. Although there are no clinical data available for injectable lorazepam in this respect, physicians should be aware that repeated doses over a prolonged period of time may result in limited physical and psychological dependence.

Lorazepam is not recommended for the treatment of psychotic or depressed patients. Since excitement and other paradoxical reactions can result from the use of these drugs in psychotic patients, they should not be used in ambulatory patients suspected of having psychotic tendencies.

As with other anxiolytic-sedative drugs, lorazepam should not be used in patients with nonpathological anxiety. These drugs are also not effective in patients with characterological and personality disorders or those with obsessive-compulsive neurosis.

When using lorazepam, it should be recognized that suicidal tendencies may be present and that protective measures may be required.

Since the liver is the most likely site of conjugation of lorazepam and since excretion of conjugated lorazepam is a renal function, the usual precautions should be taken if lorazepam is used in patients who may have some impairment of renal or hepatic function. In such cases, the dose should be very carefully titrated.

In patients for whom prolonged lorazepam therapy is indicated, periodic blood counts and liver function tests should be carried out.

When injectable lorazepam is used in patients with mild to moderate hepatic or renal disease, the lowest effective dose should be considered since drug effect may be prolonged.

While lorazepam has been shown to control status epilepticus promptly, it is not recommended for maintenance treatment of epilepsy. After seizures are controlled, agents useful in the prevention of further seizures should be administered. In the treatment of status epilepticus due to acute reversible metabolic derangement (e.g., hypoglycemia, hypocalcemia, hyponatremia) immediate efforts should be made to correct the specific defect.

Drug interaction: If lorazepam is to be combined with other drugs acting on the CNS, careful consideration should be given to the pharmacology of the agents to be employed because of the possible potentiation of drug effects. The benzodiazepines, including lorazepam, produce CNS depressant effects when administered with such medications as barbiturates or alcohol.

Lorazepam injection, like other injectable benzodiazepines, also produces depression of the CNS when administered with ethyl alcohol, phenothiazines, barbiturates, MAO inhibitors and other antidepressants. When scopolamine is used concomitantly with injectable lorazepam, an increased incidence of sedation, hallucinations and irrational behaviour has been observed.

When lorazepam injection is used I.V. as the premedicant prior to regional or local anesthesia, the possibility of excessive sleepiness or drowsiness may interfere with patient cooperation to determine levels of anesthesia. This is most likely to occur when a dose greater than 0.05 mg/kg is given and when narcotic analgesics are used concomitantly with the recommended dose.

Adverse Effects: Drowsiness is the most frequently reported adverse effect. Other reported adverse effects are dizziness, weakness, fatigue and lethargy, disorientation, ataxia, anterograde amnesia, nausea, change in appetite, change in weight, depression, blurred vision and diplopia, psychomotor agitation, sleep disturbance, vomiting, sexual disturbance, headache, skin rashes, gastrointestinal, ear, nose and throat, musculoskeletal and respiratory disturbances.

Release of hostility and other paradoxical effects, such as irritability and excitability have occurred with benzodiazepines. In addition, hypotension, mental confusion, slurred speech, oversedation and abnormal liver and kidney function tests and hemotronic values have been reported with these drugs.

The most frequent adverse effects seen with injectable lorazepam are an extension of the CNS depressant effects of the drug. Excessive sleepiness and drowsiness are the main side effects: the incidences reported depended on the dosage, route of administration, concomitant use of other CNS depressants and the investigators' expectations concerning the degree and duration of sedation.

When injectable lorazepam was given I.V., patients over 50 years of age had a higher incidence of excessive sedation than patients under 50 years of age. Restlessness, confusion, depression, crying, sobbing, hallucinations, dizziness, diplopia have been reported. Hypertension and hypotension have occasionally been observed after injectable lorazepam.

Respiratory depression and partial airway obstruction have been observed after injectable lorazepam. Skin rash, nausea and vomiting have been noted occasionally in patients who have received injectable lorazepam combined with other drugs during anesthesia and surgery.

Pain at the injection site, a sensation of burning, and redness in the same area have been reported after I.M. administration of injectable lorazepam. Pain in the immediate postinjection period and redness at the 24 hour observation period also have been reported after I.V. administration of injectable lorazepam.

Overdosage: Symptoms: With benzodiazepines, including lorazepam, symptoms of mild overdosage include drowsiness, mental confusion and lethargy. In more serious overdosage, symptoms may include ataxia, hypotonia, hypotension, stages I to III coma and, very rarely, death.

Treatment: In the case of an oral overdose, if vomiting has not occurred spontaneously and the patient is fully awake, it may be induced with 20 to 30 mL of ipecac syrup USP. Institute gastric lavage as soon as possible, and introduce 50 to 100g of activated charcoal to the stomach and allow it to remain there. Institute general supportive therapy as indicated. Vital signs and fluid balance should be carefully monitored. An adequate airway should be maintained and assisted respiration used as needed. With normally functioning kidneys, forced diuresis with I.V. fluids and electrolytes may accelerate elimination of benzodiazepines from the body. In addition, osmotic diuretics such as mannitol may be effective as adjunctive measures. In more critical situations, renal dialysis and exchange blood transfusions may be indicated. Published reports indicate that I.V. infusion of 0.5 to 4 mg of physostigmine at the rate of 1 mg/minute may reverse symptoms and signs suggestive of central anticholinergic overdose (confusion, memory disturbance, visual disturbances, hallucinations, delirium); however, hazards associated with the use of physostigmine (i.e., induction of seizures) should be weighed against its possible clinical benefit.

Dosage must be individualized and carefully titrated in order to avoid excessive sedation or mental and motor impairment. As with other anxiolytic sedatives, short courses of treatment should usually be the rule for the symptomatic relief of disabling anxiety in psychoneurotic patients and the initial course of treatment should not last longer than 1 week without reassessment of the need for a limited extension. Initially, not more than 1 week's supply of the drug should be provided and automatic prescription renewals should not be allowed. Subsequent prescriptions, when required, should be limited to short courses of therapy.

Generalized anxiety disorder: The recommended initial adult daily dosage is 2 mg in divided doses of 500 µg, 500 µg and 1 mg, or of 1 mg and 1 mg. The daily dosage should be carefully increased or decreased by 500µg depending upon tolerance and response. The usual daily dosage is 2 to 3 mg. However, the optimal dosage may range from 1 to 4 mg daily in individual patients. Usually, a daily dosage of 6 mg should not be exceeded.

The initial daily dose in elderly and debilitated patients should not exceed 500µg and should be very carefully and gradually adjusted, depending upon tolerance and response.

Excessive anxiety prior to surgical procedures: Adults: Usually 50 µg/kg to a maximum of 4 mg given sublingually (1 to 2 hours before surgery) or I.M. (2 to 3 hours before surgery). As with all premedicant drugs, the dose should be individualized. Doses of other CNS depressant drugs should ordinarily be reduced.

When a rapid onset of action is required, lorazepam may be given I.V., 15 to 20 minutes before surgery. The usual I.V. dose is 44 µg/kg or 2.0 mg total, whichever is smaller.

I.V. doses in excess of 2 mg should be restricted to patients of unusual size. A dose of 2 mg should not ordinarily be exceeded in patients over 50 years of age. Doses of other CNS depressants should ordinarily be reduced.

Equipment necessary to maintain a patent airway should be immediately available prior to I.V. administration of lorazepam.

Status Epilepticus: Adults: The usual recommended initial dose of lorazepam is 0.05 mg/kg up to a maximum of 4 mg given by slow I.V. injection. If seizure are terminated, no additional lorazepam is required. If seizures continue or recur after a 10 to 15 minute observation period, an additional I.V. dose of 0.05 mg/kg may be administered. If the second dose does not result in seizure control after another 10 to 15 minute observation period, other measures to control status epilepticus should be employed. A maximum of 8 mg only, of lorazepam, should be administered during a 12 hour period.

Administration: The sublingual tablet, when placed under the tongue, will dissolve in approximately 20 seconds. The patients should not swallow for at least 2 minutes to allow sufficient time for absorption.

When given I.M., lorazepam injection, undiluted, should be injected deep into a muscle mass.

Lorazepam injectable can be used with atropine sulfate, narcotic analgesics, other parenterally used analgesics, commonly used anesthetics and muscle relaxants. The use of scopolamine with lorazepam injection is not recommended since this combination has been associated with a higher incidence of adverse reactions.

Immediately prior to I.V. use, lorazepam injection must be diluted with an equal volume of compatible solution. When properly diluted the drug may be injected directly into the vein or into the tubing of an existing I.V. infusion. The rate of injection should not exceed 2 mg/minute. Parenteral drug products should be inspected visually for particulate matter and discoloration prior to administration, whenever solution and container permit, and should not be used if solution is discolored or contains a precipitate.

Lorazepam injection is compatible for dilution purposes with the following solutions: Sterile Water for Injection, USP, Sodium Chloride Injection, USP, 5% Dextrose Injection, USP, Bacteriostatic Sodium Chloride Injection, USP with benzyl alcohol, Bacteriostatic Water for Injection, USP with parabens, Bacteriostatic Water for Injection, USP with benzyl alcohol.

Directions for dilution for I.V. use: Aspirate the desired amount of lorazepam injection into the syringe, then slowly aspirate the equal volume of diluent. Pull back slightly on the plunger to prime the additional mixing space. Immediately mix contents thoroughly by gently inverting the syringe repeatedly until a homogenous solution results. Do not shake vigorously since this will result in air entrapment.

Supplied: Oral Tablets: Each white tablet contains: lorazepam 0.5 mg (round, imprinted 0.5 on one side and "W" on the other); (scored, oblong, imprinted "46" on one side and "Wyeth" on the other) or 2 mg (scored, ovoid, imprinted "47" on one side and "Wyeth" on the other). Also contains lactose. Energy: 2.80 kJ (0.19 kcal)/0.5 mg; 2.80 kJ (0.39 kcal)/1 mg; 2.01 kJ (0.48 kcal)/2 mg. Gluten and tartrazine-free. Bottles of 100 and 1 000 (1 mg and 2 mg). Bottles of 100 and 500 (0.5 mg).

Sublingual Tablets: Each round, flat tablet, imprinted W on one side contains: lorazepam 1 mg (white, imprinted 1 on the other side) or 2 mg (blue, imprinted 2 on the other side). Also contains lactose. Energy: 0.59 kJ (0.14 kcal)/ 1 mg; 0.80 kJ (0.19 kcal)/2 mg. Gluten and tartrazine-free. Bottles of 100.

Injection: Each 1 mL ampul contains: lorazepam 4 mg, contains benzyl alcohol 2%, polyethylene glycol 18% and propylene glycol 80%. Keep refrigerated and protect from light. Do not use if solution is discolored or contains a precipitate. Boxes of 10 and 50. For hospital use only.

(Shown in Product Recognition Section)

Reviewed 1987

ATROMID-S® ◙ *Ayerst*

Clofibrate *Antihyperlipidemic Agent*

Indications: As an adjunct to diet and other measures for reduction of severely elevated plasma lipids in patients with xanthomas or sequelae due to hyperlipidemia who do not respond adequately to diet, exercise, weight loss and other therapy.

Dysbetalipoproteinemia (Type III hyperlipidemia) known to be associated with xanthomas and a predisposition to premature atherosclerotic complications as well as cases of severe hypertriglyceridemia at risk of acute relapsing pancreatitis.

Clofibrate appears to have greater depressant effect on the very low density lipoproteins (VLDL) rich in triglycerides than the low density lipoproteins (LDL) rich in cholesterol. Therefore, patients with hyperlipidemic states involving elevation of both plasma triglycerides and cholesterol respond more favorably than those with primary hypercholesterolemia and normal triglyceride levels.

For the treatment of patients with symptomatic xanthomas or tuberosum associated with severe hyperlipidemia.

Contraindications: Hypersensitivity to clofibrate, pregnant or lactating women, patients with clinically significant hepatic or renal dysfunction. In patients with liver dysfunction, clofibrate may further raise the already elevated plasma concentrations of cholesterol.

Clofibrate is not indicated for use in children.

Warnings: The prescribing physician should be aware of the findings of long-term clinical studies for the primary prevention of ischemic heart disease, conducted with clofibrate. Patients with hyperlipidemia were not randomized according to all prognostic factors affecting mortality, had no dietary control and were compliant on clofibrate regardless of response. A 25% higher mortality in the clofibrate group was reported. The clofibrate group had more deaths from ischemic heart disease (after trial only), stroke, cancer and other major diseases though most of these differences were not statistically significant. No relationship could be shown between the reduction in mortality and cholesterol reduction, or the length of treatment with clofibrate. Evidence is inconclusive regarding these findings.

Clofibrate, on long-term animal studies, has revealed tumorigenic potential in some strains of rats but not in other rodents or other animal species. Long-term carcinogenic studies are not available in primates (marmosets).

In the absence of substantial evidence of beneficial effect on cardiovascular mortality, clofibrate is indicated only for use in selected patients who are at high risk of complications from uncontrolled hyperlipidemia.

If clofibrate is chosen for treatment, the prescribing physician should discuss the proposed therapy and inform the patient of expected benefits and potential risks which may be associated with long-term administration.

Response to clofibrate is variable and the drug should be discontinued if lipid levels are not reduced.

Children: Clofibrate is not indicated for use in children.